Product Datasheet

Computer On Modules

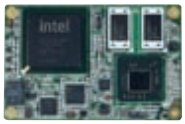
Selection Guide

Model -me		COM-Express			
		SOM-5760	SOM-5761	SOM-5781	SOM-5786
Form Factor		COM-Express	COM-Express	COM-Express	COM-Express
Processor System	CPU	Intel Atom Z510P 1.1 GHz, Z530P 1.6 GHz processor	Intel Atom N270 1.6 GHz processor	AMD Turion/ Sempron processor	Intel Core 2 Duo/ Celeron M processor
	Front Side Bus	400/533 MHz	533 MHz	800 MHz	533/800 MHz
	System Chipset	Intel System Controller Hub US15WP	Intel 945GSE/ICH7M	AMD M690E/SB600	Intel GME965 GMCH/ICH8-M
	BIOS	AWARD 8 Mbit Flash BIOS	AWARD 8 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz	DDR2 400/533 MHz	DDR2 533/667/800 MHz	DDR2 533/667 MHz
	Max. Capacity	Up to 2 GB	Up to 2 GB	Up to 4 GB	Up to 4 GB
	Socket	1 x 200-pin SODIMM socket	1 x 200-pin SODIMM socket	2 x 200-pin SODIMM sockets	2 x 200-pin SODIMM sockets
Display	Graphics	Intel GMA500 3D/2D engine	Intel GMA950 3D/2D engine	Mobile AMD X1250 3D/2D engine	Mobile Intel GMA X3100 3D/2D engine
	LCD	24-bit LVDS	2 x 18-bit LVDS	2 x 24-bit LVDS	2 x 24-bit LVDS
	VGA	Up to 1600 x 1200	Up to 2048 x 1536	Up to 2048 x 1536	Up to 2048 x 1536
	DVI	-	-	-	-
	TV Out	-	NTSC/PAL, S-Video and composite output interfaces	-	-
	SDVO	SDVO port is alter-tive by VGA function	1 SDVO port	-	2 SDVO ports
	Dual Display	CRT + LCD	CRT + LCD, TV out + LCD, TV out + CRT (Note: SDVO function is supported by customized BIOS)	CRT + LCD, LCD + DVI, CRT + DVI	CRT + LCD (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	-	Intel 82574L Ethernet	Realtek 8110SC Ethernet	Intel 82566MM Ethernet
	Speed	-	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
WatchDog Timer		256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min
Expansion		LPC, 2 PCIe x 1, 4-bit SDIO1.1	LPC, SMBUS, 3 PCIe x 1 or 1 PCIe x 4, 4 PCI master	LPC, PCIe x8, 4 PCIe x1, 4 PCI master	LPC, PCIe x16, 5 PCIe x1, 4 PCI master
I/O	PATA	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)
	SATA	-	2 x SATA	4 x SATAII	3 x SATAII
	USB	8 x USB 2.0	8 x USB 2.0	8 x USB 2.0	8 x USB 2.0
	Audio	High definition audio interface	AC97/ High definition audio interface	High definition audio interface	High definition audio interface
	GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
	COM	-	-	-	-
	FDD/LPT	-	-	-	-
	SSD	-	-	-	-
Power	Power Type	ATX, AT	ATX, AT	ATX, AT	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT	+ 12 V and +5 VSB for ATX, +12V for AT	+12 V and +5 VSB for ATX, +12V for AT	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Typical)	Typical: (1 GB DDR2 667) + 12 V @ 0.55 A (Intel Z510P 1.1 GHz), +12 V @ 0.55 A (Intel Z530P 1.6 GHz)	Typical: (1 GB DDRII 533)+ 12 V @ 0.62 A	Typical: (1 GB DDR2 667) +12 V @ 1.23 A (AMD Turion TL-62) +12 V @ 0.91 A (AMD Sempron 2100+)	Typical: (1 GB DDR2 667) + 12 V @ 1.22 A (Intel Core 2 Duo U7500) +12 V @ 1.56 A (Intel Core 2 Duo T7500)
	Power Consumption (Max, tested in HCT)	Max: (1 GB DDR2 667) + 12 V @ 0.70 A (Intel Z510P 1.1 GHz), +12 V @ 0.71 A (Intel Z530P 1.6 GHz)	Max: (1 GB DDRII 533)+12 V @ 0.9 A	Max: (1 GB DDR2 667) +12 V @ 2.88 A (AMD Turion TL-62) +12 V @ 1.29 A (AMD Sempron 2100+)	Max: (1 GB DDR2 667) +12 V @ 1.64 A (Intel Core 2 Duo U7500) +12 V @ 3.03 A(Intel Core 2 Duo T7500)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	Operating Humidity	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	95 x 125 mm (3.74" x 4.92")	95 x 125 mm (3.74" x 4.92")	95 x 125 mm (3.74" x 4.92")	95 x 125 mm (3.74" x 4.92")
Reference Page		1-5	1-7	1-9	1-11

COM-Express		COM-Micro		
SOM-5787	SOM-5788	SOM-6760	SOM-6761	SOM-6763
COM-Express	COM-Express	COM-Micro	COM-Micro	COM-Micro
Intel Core 2 Duo/ Celeron M Processor µ-FCBGA	Intel Core i7/ Core i5 Processor FCBGA	Intel Atom Z510/ Z530 Processor 1.1/ 1.6 GHz	Intel Atom Processor N270 1.6 GHz	Intel Atom Processor N450 1.66 GHz/ D510 dual-core 1.66 GHz
800/1066 MHz	800/1066 MHz	400/533 MHz	533 MHz	667 MHz
Intel GS45/ICH9M	Intel QM57	Intel System Controller Hub US15W	Intel 945GSE/ICH7M	Intel Atom N450/ICH8M Intel Atom D510/ICH8M
AMI 32 Mbit Flash BIOS	AMI 64 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS	AWARD 8 Mbit Flash BIOS	AMI 16 Mbit Flash BIOS
DDR3 800/1066 MHz	DDR3 800/1066 MHz	DDR2 400/533 MHz, Device widths of x16	DDR2 400/533 MHz	DDR2 667 MHz memory only
Up to 8 GB	Up to 8 GB	up to 2 GB	up to 2 GB	Up to 2 GB
2 x 204-pin SODIMM sockets	2 x 204-pin SODIMM sockets	1 x 200-pin SODIMM socket	1 x 200-pin SODIMM socket	1 x 200-pin SODIMM socket (N450) 2 x 200-pin SODIMM socket (D510)
Intel GS45	Intel QM57	Intel GMA500 3D/2D engine	Intel GMA950 3D/2D engine	Intel Atom N450 Intel Atom D510
2 x 24-bit LVDS	2 x 24-bit LVDS	24-bit LVDS	2 x 18-bit LVDS	18-bit LVDS
Up to 2048 x 1536	Up to 2048 x 1536	Up to 1600 x 1200 @ 24-bit	Up to 2048 x 1536	Up to 1400 x 1050 (N450) Up to 2048 x 1536 (D510)
2 ports, Shared with PEG	2 port shared with PEG	-	-	-
NTSC/PAL, S-Video and composite output interfaces	NTSC/PAL, S-Video and composite output interfaces	-	NTSC/PAL, S-Video and composite output interfaces	-
2 SDVO ports	-	SDVO port, alter-tive to VGA function	1 SDVO Port	-
Dual Display of VGA, LVDS, TV-out, HDMI, Displayport, SDVO (Note: SDVO function is supported by customized BIOS)	Dual Display of VGA, LVDS, TV-out, HDMI, Displayport (Note: SDVO function is supported by customized BIOS)	CRT + LCD	CRT + LCD, TV out + LCD, TV out + CRT (Note: SDVO function is supported by customized BIOS)	CRT + LCD
Intel 82567 Ethernet	Intel 82577LM Ethernet	Intel 82551QM Ethernet	Intel 82574L Ethernet	Intel 82567V Ethernet
10/100/1000 Mbps	10/100/1000 Mbps	10/100 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
256 levels 0 ~ 255 sec/min	65536 level, 0 ~ 65535 sec	256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min	65536 level, 0 ~ 65535 sec
LPC, PCIe x16, 5 PCIe x1, 4 PCI masters	LPC, PCIe x 16, 6 PCIe x 1, 4 PCI masters	LPC, 1 PCIe x1, 3 PCI masters, 4-bit SDIO1.1	LPC, SMBUS, 3 PCIe x1, 4 PCI masters	LPC, 5 PCIe x 1, 4 PCI masters
-	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)
3 x SATAII	4 x SATAII	-	2 x SATA	3 x SATAII
8 x USB 2.0	8 x USB 2.0	8 x USB 2.0	8 x USB 2.0	8 x USB 2.0
High definition audio interface	High definition audio interface	High definition audio interface	High definition audio interface	High definition audio interface
8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
-	-	-	-	-
-	-	-	-	-
up to 4 GB	-	-	-	-
ATX, AT	ATX, AT	ATX	ATX, AT	ATX, AT
+12 V and +5 VSB for ATX, +12V for AT	+12 V and +5 VSB for ATX, +12V for AT	+12 V, +V5_SB for ATX	+12 V and +5 VSB for ATX, +12V for AT	+12 V and +5 VSB for ATX, +12V for AT
Typical: (1 GB DDR3 1066) SP9300: +12V @ 0.66A	TBD	Typical: (1 GB DDR2 667) +12 V @ 0.477A, 5VSB @ 0.455A (Intel Z510 1.1G) +12 V @ 0.477A, 5VSB @ 0.453A (Intel Z530 1.6G)	Typical: (1 GB DDR2 533) +12 V @ 0.62A	Typical: (1 GB DDR2 667) N450: +12V @ 0.67A D510: +12V @ 0.93A
Max: (1 GB DDR3 1066) SP9300: +12V @ 2.1A	TBD	Max: (1 GB DDR2 667) +12 V @ 0.769A, 5VSB @ 0.456A (Intel Z510 1.1G) +12 V @ 0.898A, 5VSB @ 0.456A (Intel Z530 1.6G)	Max: (1 GB DDR2 533) +12 V @ 0.9A	Max: (1 GB DDR2 667) N450: +12V @ 0.89A D510: +12V @ 1.32A
0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
95 x 125 mm (3.74" x 4.92")	95 x 125 mm (3.74" x 4.92")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")
1-13	1-15	1-17	1-19	1-21

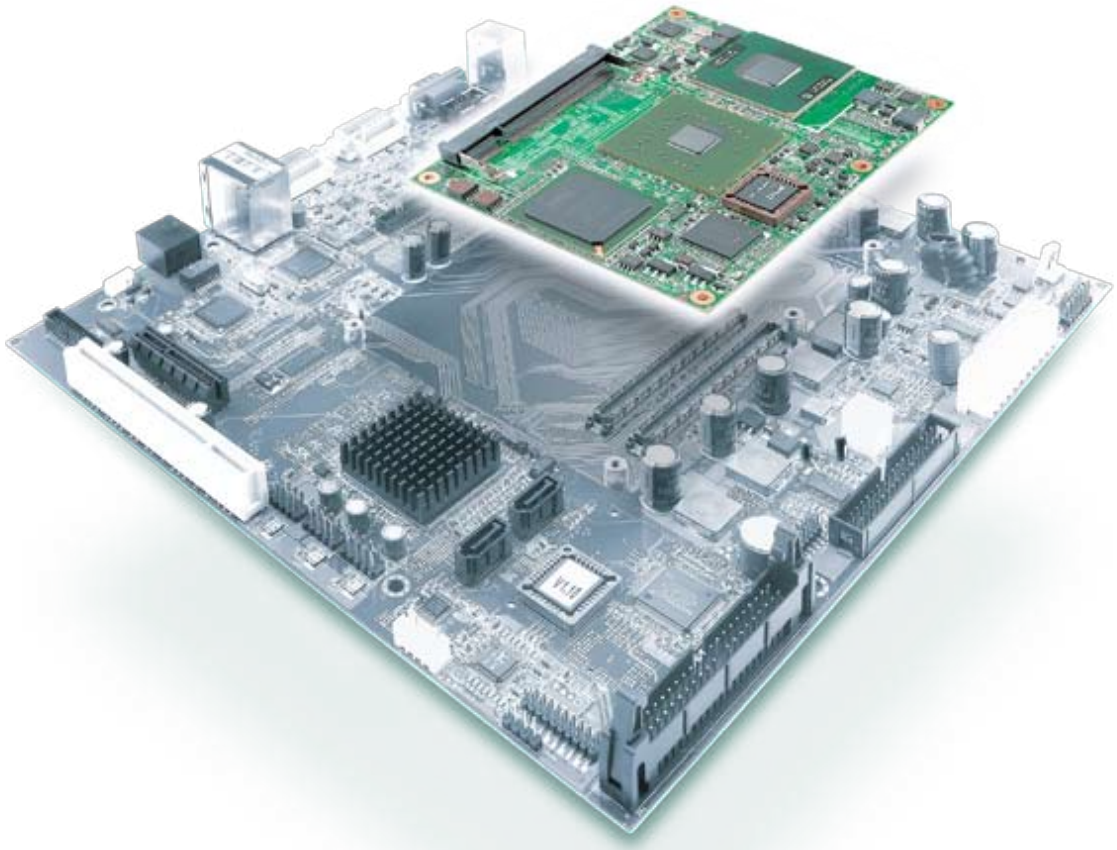
Selection Guide

Model -me		COM-Micro	ETX/XTX		
		SOM-6787	SOM-4430	SOM-4455	SOM-4461
Form Factor		COM-Micro	ETX	ETX	ETX
Processor System	CPU	Intel Core 2 Duo/ Celeron M Processor µ-FCBGA	Advantech EVA-X4300 SOC	AMD Geode LX800	Intel Atom Processor N270 1.6 GHz
	Front Side Bus	533/800 MHz	33 MHz	33 MHz	533 MHz
	System Chipset	Intel GS45/ICH9M	Advantech EVA-X4300 SOC	AMD Geode LX800/CS5536	Intel 945GSE/ ICH7M
	BIOS	AWARD 4 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR3 800/1066 MHz	DDR2	DDR 200/266/333/400 MHz	DDR2 400/533 MHz
	Max. Capacity	Up to 8 GB	On board 128/64MB	Up to 1 GB	Up to 2 GB
	Socket	2 x 204-pin SODIMM sockets	-	1 x 200-pin SODIMM socket	1 x 200-pin SODIMM socket
Display	Graphics	Intel GS45	SMI 712	AMD CS5536 2D engine	Intel 945GSE
	LCD	2 x 24-bit LVDS	18-bit TTL	24-bit LVDS or 18-bit TTL	2 x 18-bit LVDS
	VGA	Up to 2048 x 1536	Up to 1024 x 768	Up to 1024 x 768	Up to 2048 x 1536
	DVI	2 ports, Shared with PEG	-		-
	TV Out	NTSC/PAL, S-Video and composite output interfaces	-	-	NTSC/PAL, S-Video and Composite Output interfaces
	SDVO	2 SDVO Ports	-	-	1 SDVO port by on board connector
	Dual Display	CRT + LCD (Note: SDVO function is supported by customized BIOS)	CRT + LCD (Simultaneous mode)	CRT + LCD (Simultaneous mode)	CRT + LCD, TV out + LCD, TV out + CRT (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82567 Ethernet	-	Intel 82551ER Ethernet	Intel 82562GZ Ethernet
	Speed	10/100/1000 Mbps	-	10/100 Mbps	10/100 Mbps
WatchDog Timer		256 levels 0 ~ 255 sec/min	24 bits, 30.5µ sec ~ 512s	256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min
Expansion		LPC, PCIe x16, 5 PCIe x1, 4 PCI master	4 PCI master, ISA	4 x PCI master (3 x PCI master for SATA version), ISA	4 x PCI master, ISA,
I/O	PATA	-	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100) (2 x EIDE for SATA version)	1 x EIDE (UDMA 100)
	SATA	4 x SATAII	-	2 x SATA on ETX CPU module (For SATA version)	2 x SATA (On ETX CPU module)
	USB	8 x USB 2.0	4 x USB 2.0	4 x USB 2.0	4 x USB 2.0
	Audio	High definition audio interface	-	Realtek ALC203 AC97 Codec supports Line-in/out, Mic-in	Realtek ALC203 AC97 Codec supports Line-in / out, Mic-in
	GPIO	8-bit GPIO	-	1-bit GPIO, 2-bit GPE	2-bit GPIO (Support by customized BIOS)
	COM	-	2 COM ports	2 COM ports	2 COM ports
	FDD/LPT	-	LPT only	1 x FDD or LPT	1 x FDD or LPT
	SSD	up to 2 GB	-	1 x Type II CF slot	-
Power	Power Type	ATX, AT	AT	ATX, AT	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12 V for AT	+5 V only	+5V only (+5VSB needs for ATX)	+5V only (+5VSB needs for ATX)
	Power Consumption (Typical)	Typical: (1 GB DDR3 1066) +12 V @ 0.66 A (Intel SP9300 2.26 GHz)	-	Typical: (1 GB DDR 333) +5 V @ 1.80 A (AMD LX800)	Typical: (1 GB DDRII 533) +5 V @ 1.15 A
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR3 1066) +12 V @ 2.1 A (Intel SP9300 2.26 GHz)	Max: +5 V @ 0.7 A	Max: (1 GB DDR 333) +5 V @ 2.01 A (AMD LX800)	Max: (1 GB DDRII 533)+5 V @ 1.98 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	Operating Humidity	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")	114 x 95 mm (4.5" x 3.74")	114 x 95 mm (4.5" x 3.74")	114 x 95 mm (4.5" x 3.74")
Reference Page		1-23	1-25	1-27	1-29



	ETX/XTX		COM-Ultra	Qseven
SOM-4463	SOM-4487	SOM-4780	SOM-7562	SOM-3560
ETX	ETX	XTX	COM-Ultra	Qseven
Intel Atom Processor N450 1.66 GHz/ D510 dual-core 1.66 GHz	Intel Pentium M/Celeron M Processor	Intel Core 2 Duo/Celeron M Processor	Intel Atom Processor N450 1.66 GHz	Intel Atom Processor Z530/ Z510 1.6/ 1.1 GHz
667 MHz	533/400 MHz	533/667 MHz	667 MHz	533/400 MHz
Intel Atom N450/ICH8M Intel Atom D510/ICH8M	Intel 915GME (910GMLE) GMCH/ICH6M	Intel 945GME GMCH/ ICH7-MDH	ICH8M	US15W
AMI 16 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS	AWARD 4 Mbit Flash BIOS	AMI 16 Mbit Flash BIOS	Award 8 Mbit Flash BIOS
DDR2 667 MHz memory only	DDR2 400/533 MHz	DDR2 533/667 MHz	DDR2 667 MHz memory only	DDR2 533/400 MHz
Up to 2 GB (N450) Up to 4 GB (D510)	Up to 2 GB	Up to 2 GB	Onboard 512 MB	Onboard 512 MB, up to 1 GB
1 x 200-pin SODIMM socket	1 x 200-pin SODIMM socket	1 x 200-pin SODIMM sockets	-	-
Intel Atom N450 Intel Atom D510	Mobile Intel GMA900 3D/2D engine	Mobile Intel GMA 950 3D/2D engine	Intel Atom N450	Intel GMA500 3D/2D engine
18-bit LVDS	2 x 18-bit LVDS (48-bit by customized BIOS)	2 x 18-bit LVDS	18-bit LVDS	24-bit LVDS
Up to 1400 x 1050 (N450) Up to 2048 x 1536 (D510)	Up to 2048 x 1536	Up to 2048 x 1536	Up to 1400 x 1050	-
-	-	-	-	-
-	-	-	-	-
-	-	2 SDVO Ports	-	1 port
CRT + LCD	CRT + LCD	CRT + LCD (Note: SDVO function is supported by customized BIOS)	CRT + LVDS	-
Realtek 8103EL	Intel 82562GZ Ethernet	Intel 82562GZ Ethernet	Intel 82567V Ethernet	Realtek 8111 Ethernet
10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min	256 levels 0 ~ 255 sec/min	65536 level, 0 ~ 65535 sec
4 x PCI master, ISA,	4 x PCI master, ISA	LPC, 4 PCIe x1, 4 PCI master	LPC, 5 PCIe x 1	LPC, 1 PCIe x 1
1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)	1 x EIDE (UDMA 100)	-	-
2 x SATA (On ETX CPU module)	2 x SATA (On ETX CPU module)	2 x SATA	3 x SATAII	1 x SATA
4 x USB 2.0	4 x USB 2.0	6 x USB 2.0	8 x USB 2.0	8 x USB 2.0
Realtek ALC888 support Line-in/out, Mic-in	Realtek ALC203 AC97 Codec support Line-in/out, Mic-in	AC97/ High definition audio interface	High definition audio interface	High definition audio interface
1-bit GPIO, 2-bit GPE	1-bit GPIO, 2-bit GPE	1-bit GPIO, 2-bit GPE	8-bit GPIO	-
2 COM ports	2 COM ports	2 COM ports	-	-
1 x FDD or LPT	1 x FDD or LPT	1 FDD or LPT	-	-
-	-	-	-	Up to 2 GB
ATX, AT	ATX, AT	ATX, AT	ATX, AT	ATX, AT
+5 V only (+5 VSB needs for ATX)	+5 V only (+5 VSB needs for ATX)	+5 V only (+5 VSB needs for ATX)	12 V (5 VSB needs for ATX power mode), wide range voltage support by project base	5 V (5 VSB optio-l for ATX function)
Typical: (1 GB DDRII 533) +5 V @ 1.31 A (Intel N450 1.66 GHz) +5 V @ 1.87 A (Intel D510 1.66 GHz)	Typical: (1 GB DDR2 533) +5 V @ 3.66 A (Intel Pentium M 760, 2.0 G) (915GME) +5 V @ 2.63 A (Intel Pentium M LV 738, 1.4 G) (915GME) +5 V @ 2.40 A (Intel Celeron M 373, 1.0 G) (910GMLE) +5 V @ 2.37 A (Celeron M 373 0KB, 1.0 G) (910GMLE) +5 V @ 2.23 A (Celeron M 600 MHz) (910GMLE)	Typical: (1 GB DDRII 533) +5 V @ 2.34 A (L2400)	Typical: (512 MB DDRII 667) +12 V @ 0.6 A	Typical: (1 GB DDRII 533) +5 V @ 0.72 A (Intel Z510 1.1 GHz)
Max: (1 GB DDRII 533) +5 V @ 1.84 A (Intel N450 1.66 GHz) +5 V @ 2.58 A (Intel D510 1.66 GHz)	Max: (1 GB DDR2 533) +5 V @ 6.12 A (Intel Pentium M 760, 2.0 G) (915GME) +5 V @ 3.84 A (Intel Pentium M LV 738, 1.4 G) (915GME) +5 V @ 3.13 A (Intel Celeron M 373, 1.0 G) (910GMLE) +5 V @ 3.08 A (Celeron M 373 0KB, 1.0 G) (910GMLE) +5 V @ 2.82 A (Celeron M 600 MHz) (910GMLE)	Max: (1 GB DDRII 533) +5 V @ 3.80 A (L2400)	Max: (512 MB DDRII 667) +12V @ 0.7A	Typical: (1 GB DDRII 533) +5 V @ 1.13 A (Intel Z510 1.1 GHz)
0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
114 x 95 mm (4.5" x 3.74")	114 x 95 mm (4.5" x 3.74")	114 x 95 mm (4.5" x 3.74")	84 x 55 mm (3.3" x 2.17")	70 x 70 mm (2.76" x 2.76")
1-31	1-33	1-35	1-37	1-39

COM Design Support Services



Customer Design Stage	1 Planning	2 Design	3 Validation	4 Integration	5 Production
	Searching for possible solutions	Start carrier board design	COM module & carrier board integration	Start system integration	Development complete, start production
Advantech Solutions	■ Consulting Services • Technical Trend • Specifications • Schedule	■ Product Services • Various COMs Offerings • Design Documents ■ Design Assistance Services • Design Library • Schematic Review • Placement/Layout Review	■ Design Assistance Services • Issue Verification Services ■ Software Services • BIOS Customization	■ Software Services • Embedded OS Support • Utility Customization ■ Thermal Solutions • Thermal Analysis • Thermal Solution Customization ■ I/O Module Services	■ Customer Designed Carrier Board Production

iManager for COM Integration

Secure the System

- An encryption Space for Data Storage
- Easy-to-use Utility for encryption
- Software Protection Available
- Flash Lock Available
- Unique Security ID On-board

Easy System Upgrade

- Supports Various OS
- SW AP Reusable
- Universal Bridge for HW Control

Enhance the Reliability

- Crashed OS Auto Restart
- H/W Failure Auto Reboot
- Malfunction SW AP Auto Restart
- Smart Diagnosis and Log when OS Crashed

Simplify the Integration

- Offer Multi-Control Interface
- Unified Software API

Easy to Configure

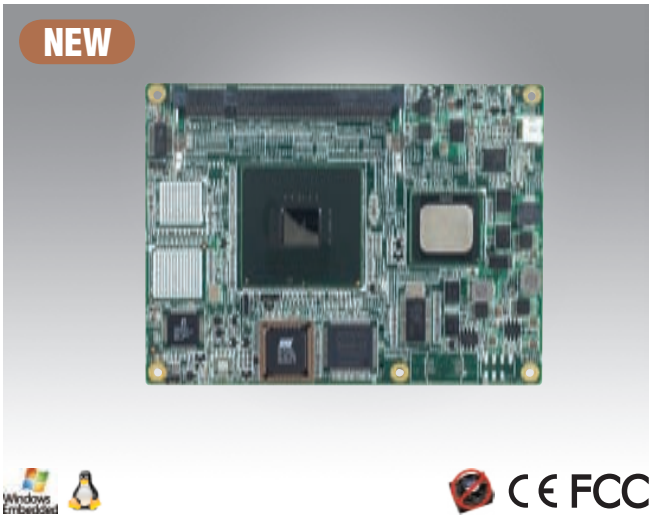
- Smart Fan
- Advanced Watchdog
- Hardware Monitoring
- CPU Throttling

eSOS Emergency 2nd OS

- HW Diagnostic Utility
- Email Utility
- Telnet/FTP Server
- Configuration Utility

SOM-5760

Intel® Atom™ Processor Z510P, Z530P COM-Express CPU Module



Features

- Embedded Intel® Atom™ Processor + US15WP.
- Intel GMA 500, MPEG2, MPEG4, HW decoder, Supports VGA, 24-bit LVDS
- Supports DDR2 SODIMM up to 2 GB
- Supports 2 PCIe x1, LPC, 1 IDE, 8 USB 2.0
- Supports embedded software APIs and Utility

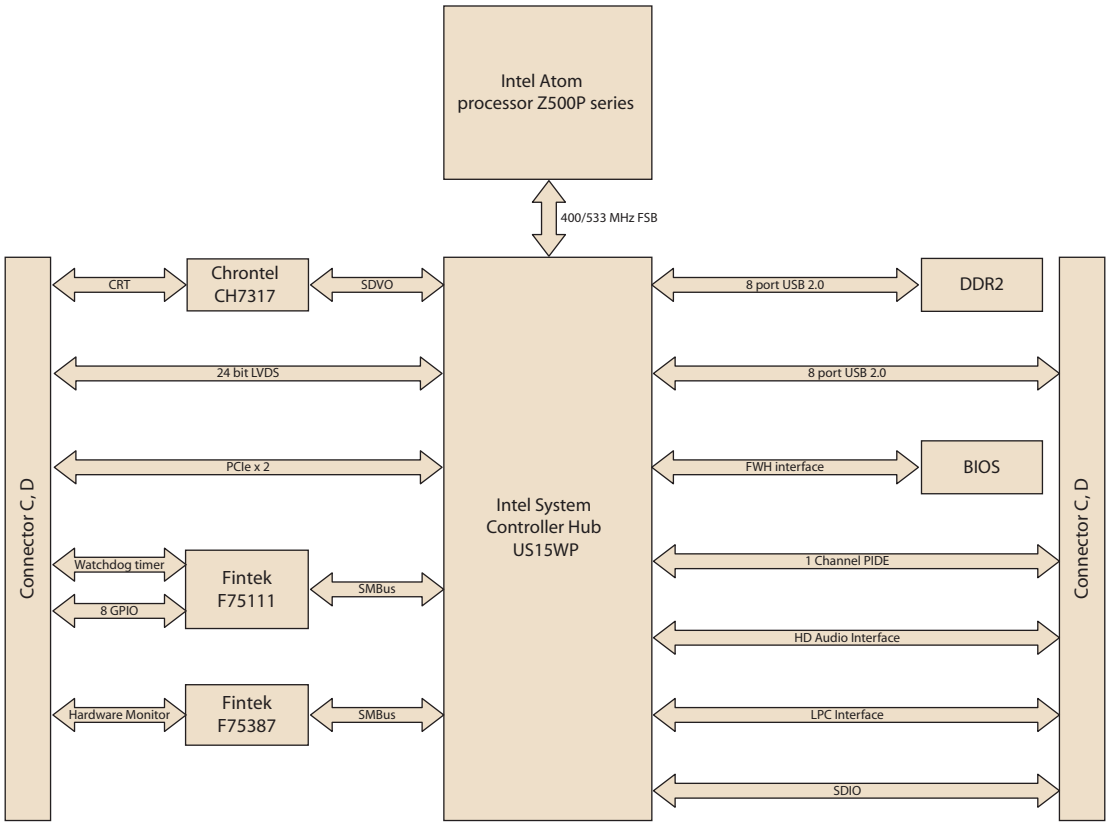
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Form Factor		COM-Express, Module Pin-out Type II
Processor System	CPU	Intel Atom Processor Z510P 1.1 GHz, Z530P 1.6 GHz
	Front Side Bus	400/533 MHz
	System Chipset	Intel System Controller Hub US15WP
	BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel SCH US15WP
	VRAM	Shared system memory up to 256 MB
	Graphics Engine	Intel GMA 500 DirectX 9Ex Supports H.264, MPEG2 and MPEG4 hardware decoder
	LCD	24-bit single channel LVDS
	VGA	Up to 1600 x 1200 @ 24-bit
	SDVO	SDVO port is alter-tive to VGA function
	Dual Display	CRT + LCD
WatchDog Timer		256 timer intervals, from 0 to 255 sec. or min, setup by software, jumperless selection, generates system reset
Expansion		LPC, 2 PCIe x1, 4-bit SDIO1.1
I/O	PATA	1 x EIDE (UDMA 100)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V, and +5 VSB for ATX, +12 V for AT
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	HD Audio	PCIe x1	USB 2.0	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5760-S1A1E	Atom Z510P 1.1 GHz	512K L2	Intel SCH US15WP	24-bit	Yes	See Note 1	Yes	2	8	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-5760-S6A1E	Atom Z530P 1.6 GHz	512K L2	Intel SCH US15WP	24-bit	Yes	See Note 1	Yes	2	8	1	1	Yes	Yes	Passive	0 ~ 60° C

Note 1: SDVO Port is alter-tive of VGA function

Note 2: Wide range temperature is optio-I supported with 1.1 GHz or 1.33 GHz CPU

Development Board

Part No.	Description
SOM-DB5700-00A2E	Development Board for COM-Express

Packing List

Part No.	Description	Quantity
	SOM-5760 CPU Module	1
	Utility CD	1
	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE 2008	2070009521	Image XPE WES2009 US15W SOM-6760 V4.0 MUI24
QNX 6.4.1		BSP ready

SOM-5761

Intel® Atom™ Processor N270 COM-Express CPU Module

Features

- Embedded Intel® Atom™ N270 1.6 GHz Processor + 945GSE+ICH7M
- Intel GMA 950, Microsoft DirectX 9.1, Supports 36-bit LVDS TFT LCD
- Supports one DDR2-533 memory SODIMM sockets up to 2 GB
- Supports 3 PCIe x1, 4 PCI Master, LPC, 2 SATA, 8 USB 2.0, AC97/HDA
- Supports embedded software APIs and Utility

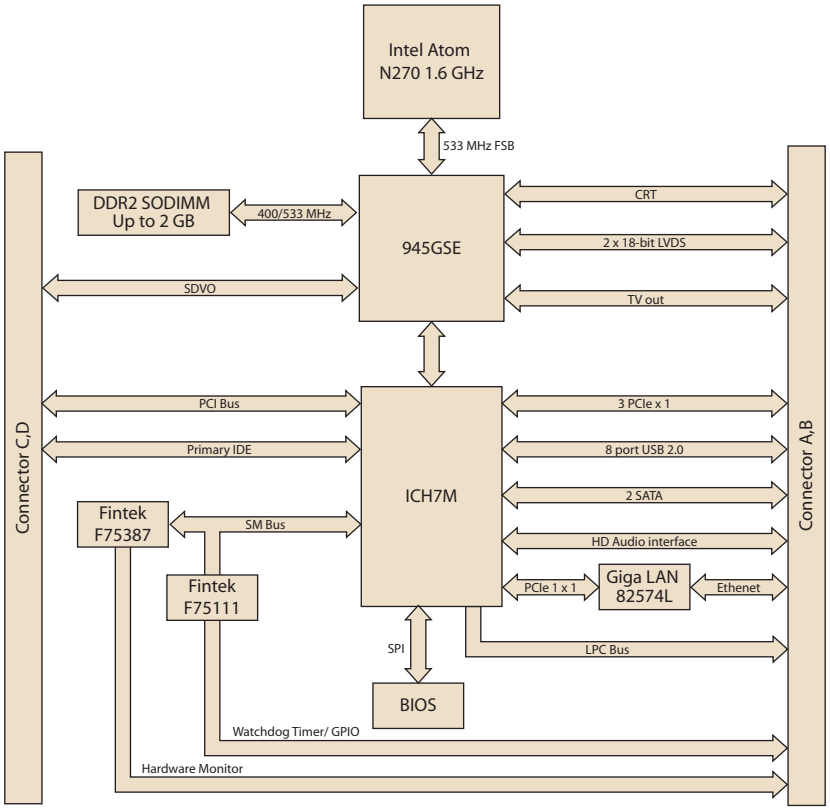
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Express or COM-Micro, Module Pin-out Type II
Processor System	CPU	Intel Atom Processor N270 1.6 GHz
	Front Side Bus	533 MHz
	System Chipset	Intel 945GSE/ ICH7M
	BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 945GSE
	VRAM	DVMT 3.0 supports up to 224 MB
	Graphics Engine	Intel GMA950, Microsoft DirectX 9.1
	LCD	Single and dual channel 18/36-bit LVDS
	VGA	up to 2048 x 1536
	TV Out	Supports NTSC/PAL, S-Video and Composite Output interfaces
	SDVO	1 SDVO Port
	Dual Display	CRT + LCD, TV out + LCD, TV out + CRT (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82574L Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, SMBUS, 3 PCIe x 1 or 1 PCIe x 4, 4 PCI master
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATA, data transfer rates up to 150 MB/s
	USB	8 x USB 2.0
	Audio	AC97, High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V, and +5 VSB for ATX, +12 V for AT
	Power Consumption (Typical)	Typical: (1 GB DDRII 533) +12 V @ 0.62 A
	Power Consumption (Max, test in HCT)	Max: (1 GB DDRII 533) +12 V @ 0.9 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	TV out	Giga LAN	HD Audio	PCIe	PCI	USB 2.0	SATA	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5761FG-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	2 x 18-bit	Yes	1	Yes	1	Yes	Note 1	4	8	2	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-5761Z-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	2 x 18-bit	Yes	1	Yes	1	Yes	Note 1	4	8	2	1	1	Yes	Yes	Passive	-20 ~ 80°C
SOM-5761Z2-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	2 x 18-bit	Yes	1	Yes	1	Yes	Note 1	4	8	2	1	1	Yes	Yes	Passive	-40 ~ 85°C

Note 1: Supports 1 PCIe x4 or 3 PCIe x1. Reserve 1 PCIe x4 circuit if no need to use PCIe Giga LAN (BOM option, either one, default PCIe x1 for Giga LAN and 3 PCIe x1)

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Packing List

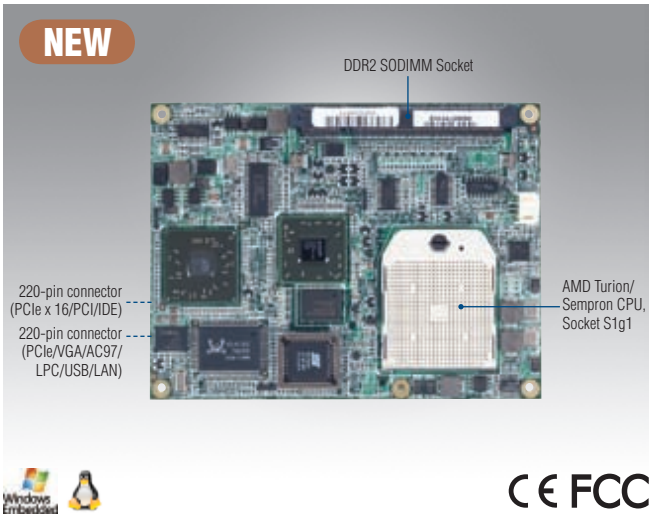
Part No.	Description	Quantity
	SOM-5761 CPU Module	1
	Utility CD	1
1960028640N101	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2 COM V1.2 ENG
Win XPE 2008	2070007912	XPE WES2009 Intel-Uniprocess V4.0 MUI24
QNX 6.4.1		BSP ready

SOM-5781

AMD Turion M690E COM-Express CPU Module



Features

- AMD Turion/Sempron processor + AMD M690E/SB600 chipsets
- Mobile AMD X1250 3D/2D engine, Supports 48-bit LVDS/VGA/HDMI/DVO/ PCIe x 8
- Supports two DDR2-800 memory SODIMM sockets up to 4 GB
- Supports 4 PCIe x1, 4 PCI Master, LPC, 4 SATAII, 1 IDE, 8 USB 2.0, HDA
- Supports embedded software APIs and Utilities

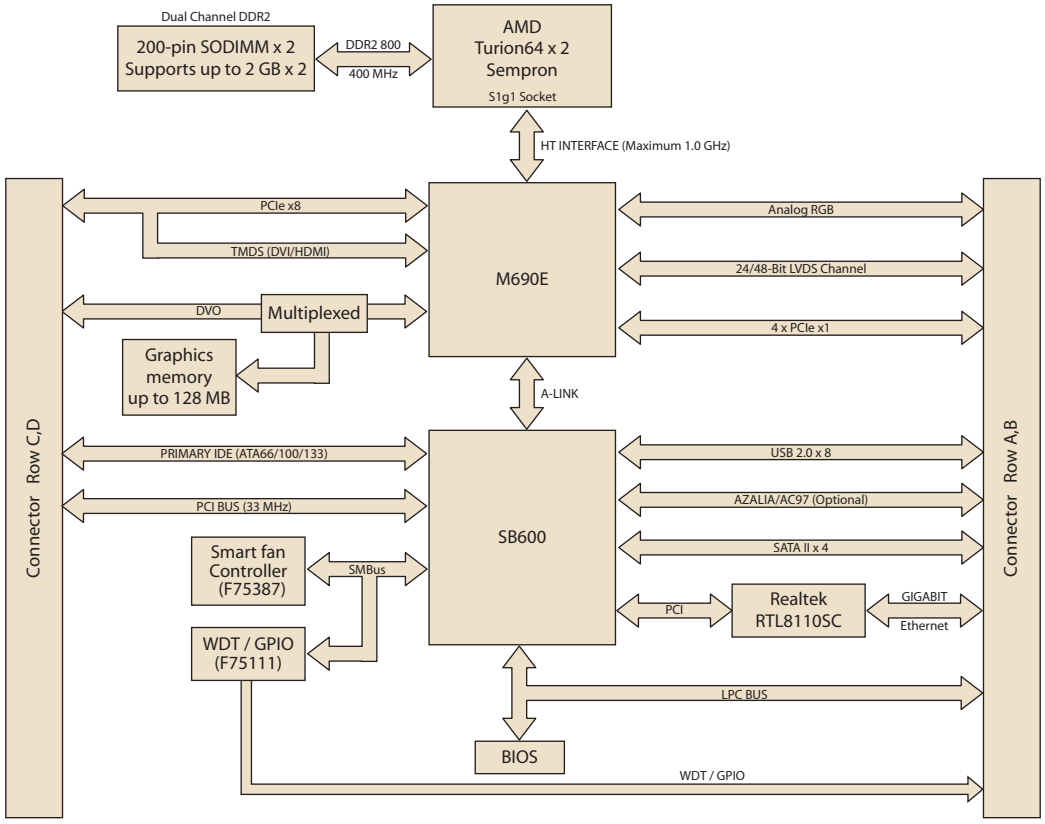
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Express, Module Pin-out Type II
Processor System	CPU	AMD Turion/Sempron processor
	Front Side Bus	800 MHz
	System Chipset	AMD M690E/SB600
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2 533/667/800 MHz
	Max. Capacity	up to 4 GB
	Socket	2 x 200-pin SODIMM sockets
Display	Chipset	AMD M690E
	VRAM	Supports up to 256 MB (optio-I 128 MB side port)
	Graphics Engine	Mobile AMD X1250 3D/2D engine
	LCD	Single and dual channel 24/48-bit LVDS
	VGA	up to 2048 x 1536
	DVO	1
	Dual Display	CRT + LCD, LCD + DVI, CRT + DVI
Ethernet	Chipset	Realtek 8110SC Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, PCIe x8, 4 PCIe x1, 4 PCI master
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	4 x SATAII
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Typical)	Typical: (1 GB DDR2 667) +12 V @ 1.23 A (AMD Turion TL-62) +12 V @ 0.91 A (AMD Sempron 2100+)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR2 667) +12 V @ 2.88 A (AMD Turion TL-62) +12 V @ 1.29 A (AMD Sempron 2100+)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	Giga LAN	HD Audio	PCIe x 8	PCIe x 1	PCI	USB 2.0	SATA	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5781FS-00A1E	Socket		M690E	2 x 24-bit	Yes	1	Yes	1	4	4	8	4	Yes	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5781FS-S0A1E	Sempron 2100+	256 KB	M690E	2 x 24-bit	Yes	1	Yes	1	4	4	8	4	Yes	Yes	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for Giga LAN COM Module

Optio-l Accessories

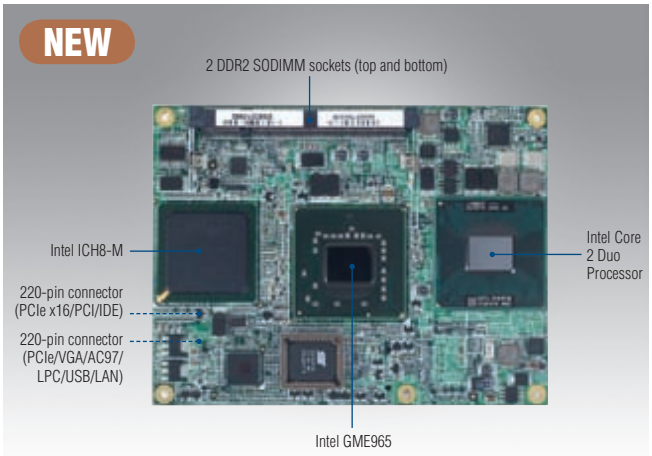
Part No.	Description
1960023996N00B	Semi-Heatsink
1960019182T10B	Semi-Cooler 95 x 125 x 22 mm with 12 V Fan

Packing List

Part No.	Description	Quantity
	SOM-5781 CPU Module	1
	Utility CD	1
1960023313T00B	Heatspreader	1

SOM-5786

Intel® Core™2 Duo Processor GME965 COM-Express CPU Module



Features

- Embedded Intel Core™2 Duo/Celeron® M Processor +GME965+ICH8M.
- Intel GMA X3100 graphic engine, Supports 48-bit LVDS
- Supports 2 DDR2 SODIMM up to 4 GB
- Supports PCIe x16, 5 PCIe x1, 4PCI, LPC, 3 SATAII, 1 IDE, 8 USB 2.0
- Supports embedded software APIs and Utilities

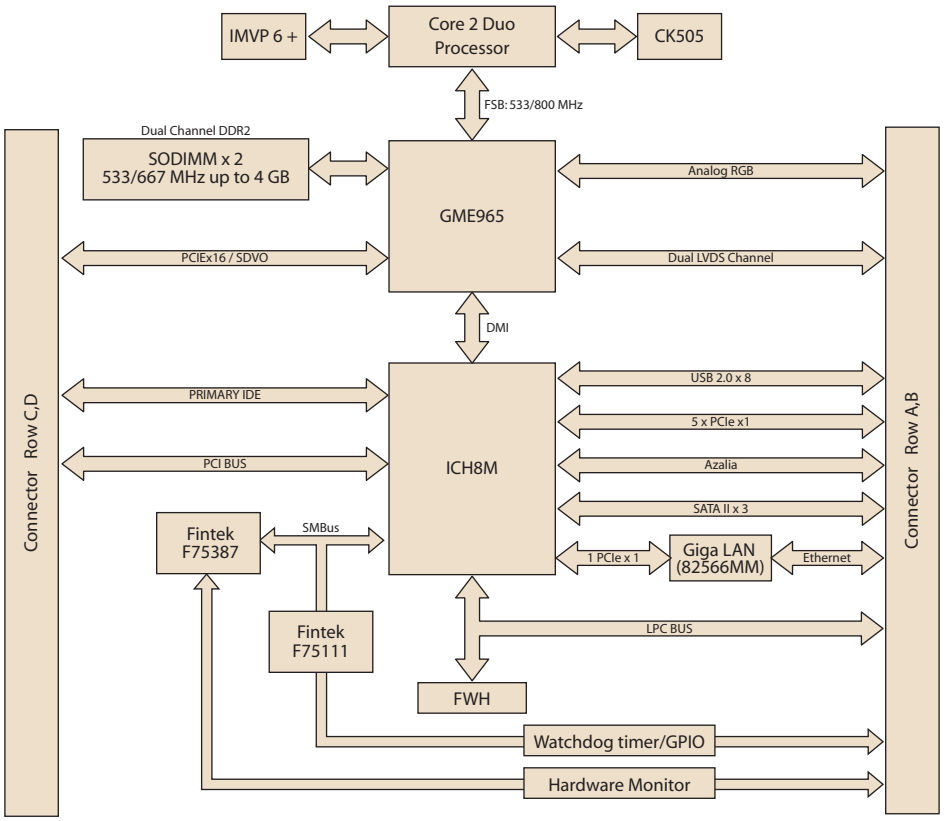
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO

Utilities: BIOS flash, Monitoring, Flash Lock

Specifications

Form Factor		COM-Express, Module Pin-out Type II
Processor System	CPU	Intel Core 2 Duo Processor
	Front Side Bus	533/800 MHz
	System Chipset	Intel GME965 GMCH/ICH8-M
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2 533/667 MHz
	Max. Capacity	up to 4 GB
	Socket	2 x 200-pin SODIMM sockets
Display	Chipset	Intel GME965
	VRAM	DVMT 4.0 supports up to 384 MB
	Graphics Engine	Mobile Intel GMA X3100 3D/2D engine
	LCD	Single and dual channel 24/48-bit LVDS
	VGA	up to 2048 x 1536
	SDVO	2 SDVO Ports
	Dual Display	CRT + LCD (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82566MM Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, PCIe x16, 5 PCIe x1, 4 PCI master
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	3 x SATAII
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Typical)	Typical: (1 GB DDR2 667) +12 V @ 1.22 A (Intel Core 2 Duo U7500) +12 V @ 1.56 A (Intel Core 2 Duo T7500)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR2 667) +12 V @ 1.64 A (Intel Core 2 Duo U7500) +12 V @ 3.03 A (Intel Core 2 Duo T7500)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	Giga LAN	HD Audio	PCIe x 16	PCIe x 1	PCI	USB 2.0	SATA	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5786FG-00A1E	Socket 478	CPU	Intel GME965	2 x 24-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5786FG-S0A1E	Intel Core 2 Duo U7500 1.06 GHz	4 MB	Intel GME965	2 x 24-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5786FG-S6A1E	Intel Core 2 Duo L7500 1.6 GHz	4 MB	Intel GME965	2 x 24-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Optio-l Accessories

Part No.	Description
1960019182T10B	Semi- Cooler 95 x 125 x 22 mm with 12 V Fan

Packing List

Part No.	Description	Quantity
	SOM-5786 CPU Module	1
	Utility CD	1
1960005316	Heatspreader (SOM-5786FG-00A1E only)	1
1960005315	Heatspreader (SOM-5786FG-S0A1E and SOM-5786FG-S6A1E)	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2 COM V1.2 ENG
Win XPE 2007	2070006671	Image XPE FP2007 SOM-5786 V3.01 ENG

SOM-5787

Intel® Core™2 Duo Processor GS45 COM-Express CPU Module

Features

- Embedded Intel® Core™2/Celeron® M processor
- Intel GMA X4500 Gen 5 DX10, HW support for H.264, VC-1 and MPEG2
- Supports 2 DDR3 SODIMM up to 8 GB
- Supports PCIe x16, 5 PCIe x1, 4 PCI, LPC, 3 SATAII, 8 USB2.0
- Supports embedded software APIs and Utilities

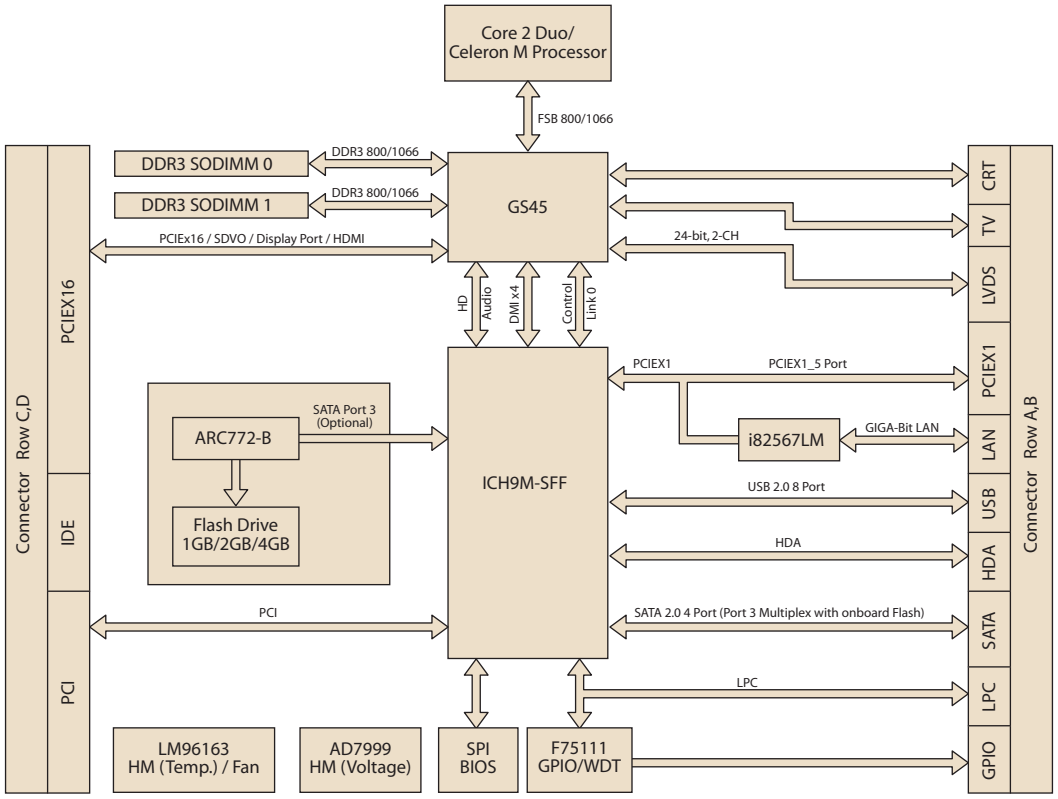
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Express, Module Pin-out Type II
Processor System	CPU	Intel Core 2 Duo SP9300, LV Core 2 Duo SL9400, ULV Core 2 Duo SU9300 / Intel ULV Celeron M 722, ULV Celeron M 723
	Front Side Bus	800/1066 MHz
	System Chipset	Intel GS45/ICH9M SFF
	Intel AMT 4.0	Yes
	BIOS	AMI 32 Mbit
Memory	Technology	DDR3 800/1066 MHz
	Max. Capacity	up to 8 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Chipset	Intel GS45
	VRAM	DVMT 5.0 supports up to 1024 MB
	Graphics Engine	Mobile Intel GMA X4500 3D/2D engine, HDMI, Displayport, SDVO shared with PCIe x16 (PEG)
	LCD	Single and dual channel 24/48-bit LVDS
	TV-out	Yes
	VGA	up to QXGA (2048 x 1536)
	SDVO	2 SDVO Ports
	Dual Display	Dual Display of VGA, LVDS, TV-out, HDMI, Displayport, SDVO (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82567 Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, PCIe x16, 5 PCIe x1, 4 PCI master
I/O	SATA	3 x SATAII (1 SATA port used for 2G onboard flash)
	SSD	2 GB SSD Flash on board
	USB	8 x USB 2.0 ports
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Typical)	(1 GB DDR3 1066) SP9300: +12V @ 0.66A
	Power Consumption (Max. test in HTC)	(1 GB DDR3 1066) SP9300: +12V @ 2.1A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	Giga LAN	HD Audio	PCIe x 16	PCIe x 1	PCI	USB 2.0	SATA	LPC	Onboard flash	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5787FG-S1A1E	Intel ULV Celeron M 723 1.2 GHz	1 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	2G	Yes	Yes	Active	0 ~ 60° C
SOM-5787FG-S2A1E	Intel ULV Celeron M 722 1.2 GHz	1 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	2G	Yes	Yes	Passive	0 ~ 60° C
SOM-5787FG-S3A1E	Intel ULV Core 2 Duo SU9300, 1.2 GHz	3 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	2G	Yes	Yes	Active	0 ~ 60° C
SOM-5787FG-S9A1E	Intel LV Core 2 Duo SL9400, 1.86 GHz	6 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	2G	Yes	Yes	Active	0 ~ 60° C
SOM-5787FG-U3A1E	Intel Core 2 Duo SP9300, 2.26 GHz	6 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	3 x SATAII	1	2G	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Optio-l Accessories

Part No.	Description
1960019182T10B	Semi- Cooler 95 x 125 x 22 mm with 12 V Fan

Packing List

Part No.	Description	Quantity
	SOM-5787 CPU Module	1
	Utility CD	1
	Heatspreader	1

Embedded OS

OS	Part No.	Description
Win XPE 2008	2070009650	XPE WES2009 SOM-5787 V4.0 MUI24

SOM-5788

Intel® Core™ i7/i5 Processor COM-Express CPU Module

Features

- Embedded Intel® Core™ i7/i5 processor + QM57
- Intel® GMA supports 18/24-bit LVDS, HDMI, Displayport, TV-out, VGA
- Supports 2 DDR3-1066 memory SODIMM sockets up to 8 GB
- Supports 6 PCIex1, 4 PCI masters, 4 SATAII, 8 USB 2.0, EIDE, GbE
- Supports Advantech iMa-ger and software APIs

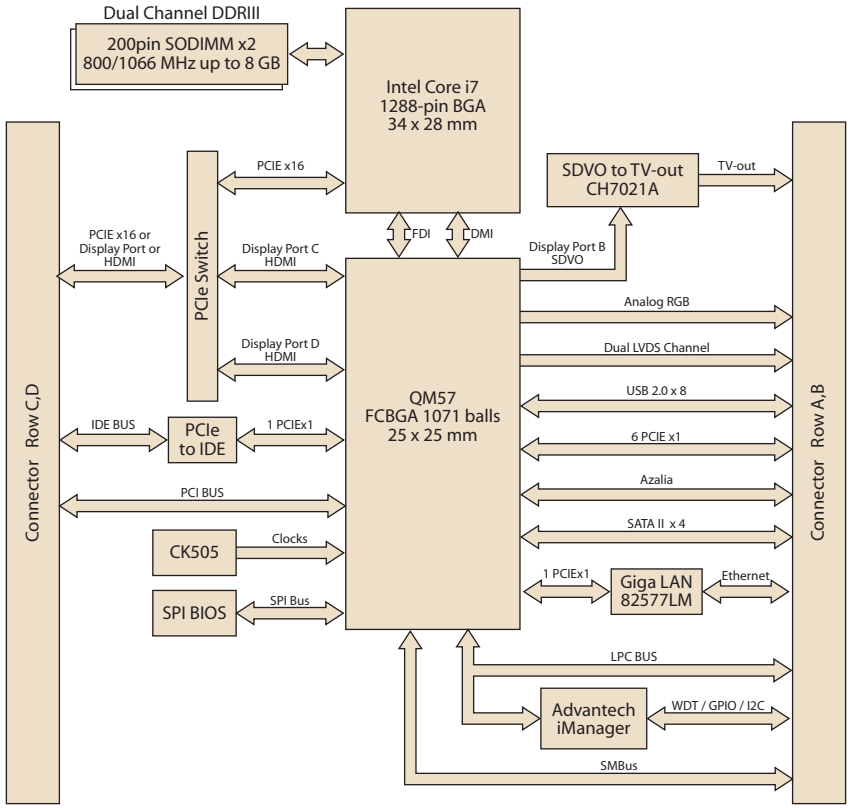
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Express, Module Pin-out Type II
Processor System	CPU	Intel Core i7-610E Processor (4M Cache, 2.53 GHz) Intel Core i7-620LE Processor (4M Cache, 2.00 GHz) Intel Core i7-620UE Processor (4M Cache, 1.06 GHz) Intel Core i5-520E Processor (3M Cache, 2.40 GHz)
	System Chipset	Intel QM57
	BIOS	AMI 64 Mbit Flash BIOS
Memory	Technology	DDR3 800/1066 MHz
	Max. Capacity	up to 8 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Chipset	Intel GMA integrated in Core i7 or Core i5
	Graphic Engine	Intel Next Gen HDMI, DVI, TV-out shared with PEG
	LVDS	Single and dual channel 18/24-bit LVDS
	VGA	up to 2048 x 1536
		HDMI, Displayport, TV-out shared with PEG
Ethernet	Chipset	Intel 82577LM Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		LPC, 6 PCIe x 1 and 1 PEG x 16, 4 PCI masters
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	4 x SATAII (300 MB/s)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimension	95 x 125 mm (3.74" x 4.92")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	Giga LAN	HD Audio	PCIe x 4	PCIe x 1	PCI	USB 2.0	SATA	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	OperatingTemp.
SOM-5788FG-U5A1E	Core i7-610E SV 2.53 GHz	4 MB	QM57	18/24-bit	Yes	1	Yes	Option	6	4	8	4 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-U0A1E	Core i7-620LE LV 2.0 GHz	4 MB	QM57	18/24-bit	Yes	1	Yes	Option	6	4	8	4 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-S1A1E	Core i7-620UE ULV 1.06 GHz	4 MB	QM57	18/24-bit	Yes	1	Yes	Option	6	4	8	4 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-U4A1E	Core i5-520E SV 2.4 GHz	3 MB	QM57	18/24-bit	Yes	1	Yes	Option	6	4	8	4 x SATAII	1	1	Yes	Yes	Active	0 ~ 60° C

Development Board

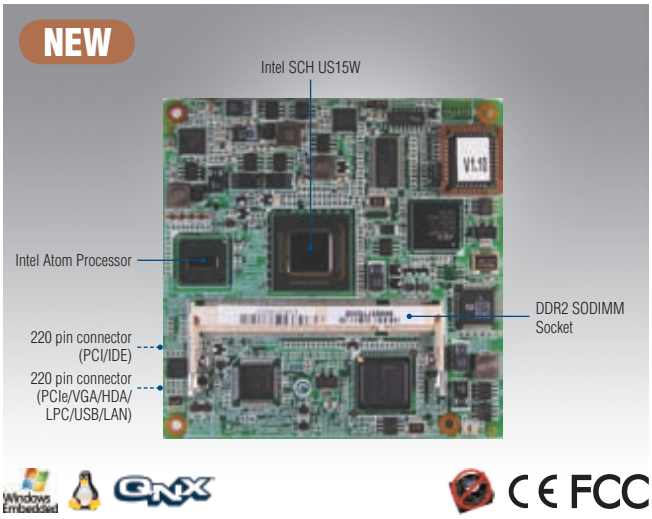
Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Packing List

Part No.	Description	Quantity
	SOM-5788 CPU Module	1
	Utility CD	1
	Heatspreader	1

SOM-6760

Intel® Atom™ Processor SCH US15W COM-Micro CPU Module



Features

- Embedded Intel® Atom™ Z510/Z530 processor + System Controller Hub US15W
- Intel GMA 500, Microsoft DirectX 9, H.264, MPEG2, MPEG4, HW decoder, Supports 24-bit LVDS/VGA
- Support one DDR2-533 memory SODIMM socket up to 2 GB
- Supports 1 PCIe x1, 4 PCI Master, LPC, 1 IDE, 8 USB 2.0, AC97/HDA, 4-bit SDIO1.1
- Supports embedded software APIs and Utility

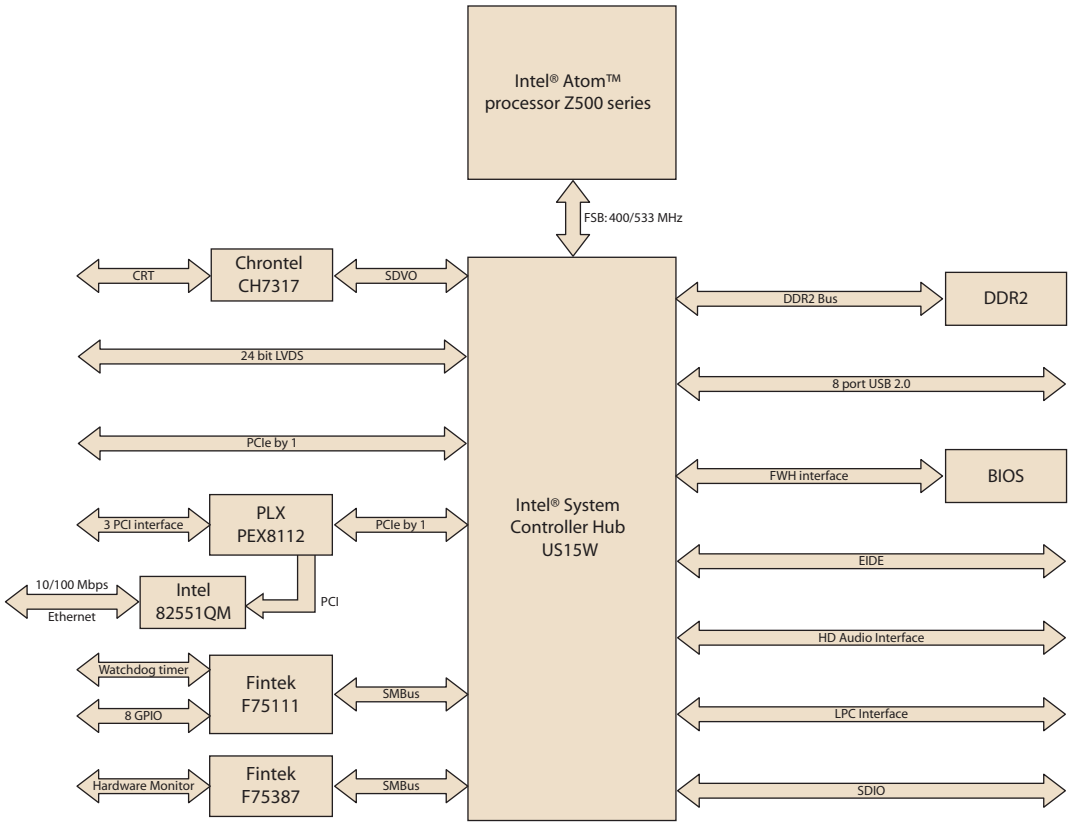
Software APIs: Watchdog, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Micro, Module Pin-out Type II
Processor System	CPU	Intel Atom processor Z510 1.1 GHz, Z530 1.6 GHz
	Front Side Bus	400/533 MHz
	System Chipset	Intel System Controller Hub US15W
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz, Device widths of x16
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel SCH US15W
	VRAM	Shared system memory up to 256 MB
	Graphics Engine	Intel GMA 500 DirectX 9Ex Supports H.264, MPEG2 and MPEG4 hardware decoder
	LCD	24-bit single channel LVDS
	VGA	Up to 1600 x 1200 @ 24-bit
	SDVO	SDVO Port is alter-tive by VGA function
	Dual Display	CRT + LCD
Ethernet	Chipset	Intel 82551QM 10/100 Mbps Ethernet
	Speed	10/100 Mbps IEEE 802.3u 100 Mbps Fast Ethernet
WatchDog Timer		256 timer intervals, from 0 to 255 sec. or min, setup by software, jumperless selection, generates system reset
Expansion		LPC, 1 PCIe x1, 3 PCI master, 4-bit SDIO1.1
I/O	PATA	1 x EIDE (UDMA 100)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX
	Power Supply Voltage	+12 V, +V5_SB for ATX
	Power Consumption (Typical)	Typical: (1 GB DDR2 667) +12 V @ 0.477A, 5VSB @ 0.455A (Intel Z510 1.1 GHz) +12 V @ 0.477A, 5VSB @ 0.453A (Intel Z530 1.6 GHz)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR2 667) +12 V @ 0.769A, 5VSB @ 0.456A (Intel Z510 1.1 GHz) +12 V @ 0.898A, 5VSB @ 0.456A (Intel Z530 1.6 GHz)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	10/100 LAN	HD Audio	PCIe x 1	PCI	USB 2.0	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6760FL-S1A1E	Atom Z510 1.1 GHz	512K L2	Intel SCH US15W	24-bit	Yes	See Note 1	1	Yes	1	3	8	1	1	Yes	NO	Passive	0 ~ 60° C
SOM-6760FL-S6A1E	Atom Z530 1.6 GHz	512K L2	Intel SCH US15W	24-bit	Yes	See Note 1	1	Yes	1	3	8	1	1	Yes	NO	Passive	0 ~ 60° C

Note 1 — SDVO Port is alter-tive by VGA function

Development Board

Part No.	Description
SOM-DB5700-00A2E	Development Board for COM-Express

Packing List

Part No.	Description	Quantity
	SOM-6760 CPU Module	1
	Utility CD	1
1960027223N101	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE 2008	2070009521	Image XPE WES2009 US15W SOM-6760 V4.0 MUI24
QNX 6.4.1		BSP ready

SOM-6761

Intel® Atom™ Processor N270 COM-Micro CPU Module

Features

- Embedded Intel® Atom™ Processor N270 1.6 GHz + 945GSE+ICH7M
- Intel GMA 950, Microsoft DirectX 9.1, Supports 36-bit LVDS TFT LCD
- Supports one DDR2-533 memory SODIMM Socket up to 2 GB
- Supports 3 PCIe x1, 4 PCI Master, LPC, 2 SATA, 8 USB 2.0, AC97/HDA
- Supports embedded software APIs and Utilities

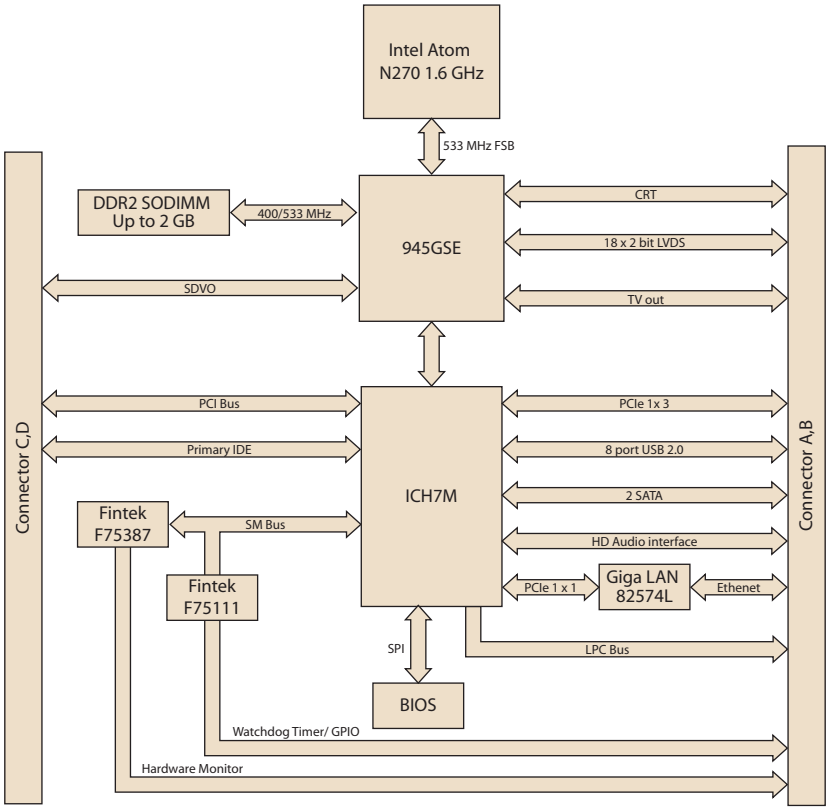
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Micro, Module Pin-out Type II
Processor System	CPU	Embedded Intel Atom Processor N270 1.6 GHz
	Front Side Bus	533 MHz
	System Chipset	Intel 945GSE/ ICH7M
	BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 945GSE
	VRAM	DVMT 3.0 supports up to 224 MB
	Graphics Engine	Intel GMA950, Microsoft DirectX 9.1
	LCD	Single and dual channel 18/36-bit LVDS
	VGA	up to 2048 x 1536
	TV Out	Supports NTSC/PAL, S-Video and Composite Output interfaces
	SDVO	1 SDVO Port
	Dual Display	CRT + LCD, TV out + LCD, TV out + CRT (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82574L Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, SMBUS, 3 PCIe x 1 or 1 PCIe x 4, 4 PCI master
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATA, data transfer rates up to 150 MB/s
	USB	8 x USB 2.0
	Audio	AC97, High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V, and +5 VSB for ATX, +12 V for AT
	Power Consumption (Typical)	Typical: (1 GB DDRII 533) +12 V @ 0.62 A
	Power Consumption (Max, test in HCT)	Max: (1 GB DDRII 533) +12 V @ 0.9 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	TV out	Giga LAN	HD Audio	PCIe	PCI	USB 2.0	SATA	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6761FG-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	1	Yes	See Note 1	4	8	2	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6761Z-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	1	Yes	See Note 1	4	8	2	1	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-6761Z2-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	1	Yes	See Note 1	4	8	2	1	1	Yes	Yes	Passive	-40 ~ 85° C

Note 1: Supports 1 PCIe x4 or 3 PCIe x1. 1 PCIe x4 circuit available if PCIe Giga LAN is not needed (BOM option, either one, default PCIe x1 for Giga LAN and 3 PCIe x1)

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Packing List

Part No.	Description	Quantity
	SOM-6761 CPU Module	1
	Utility CD	1
1960028640N101	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE 2008	2070007912	XPE WES2009 Intel-Uniprocess V4.0 MUI24
QNX 6.4.1		BSP ready

SOM-6763

Intel® Atom™ Processor N450/ D510 COM-Micro CPU Module

Features

- Embedded Intel® Atom™ Processor N450 SC 1.66 GHz / D510 DC 1.66 GHz + ICH8M
- Intel Gen 3.5 DX9, MPEG2 Decode in HW, supports 18-bit LVDS, VGA
- Supports 2 DDR2-667 memory SODIMM sockets up to 2 GB
- Supports 5 PCIe x 1, 4 PCI masters, LPC, 3 SATAII, 8 USB 2.0, EIDE, GbE
- Supports Advantech iMa-ger and software APIs

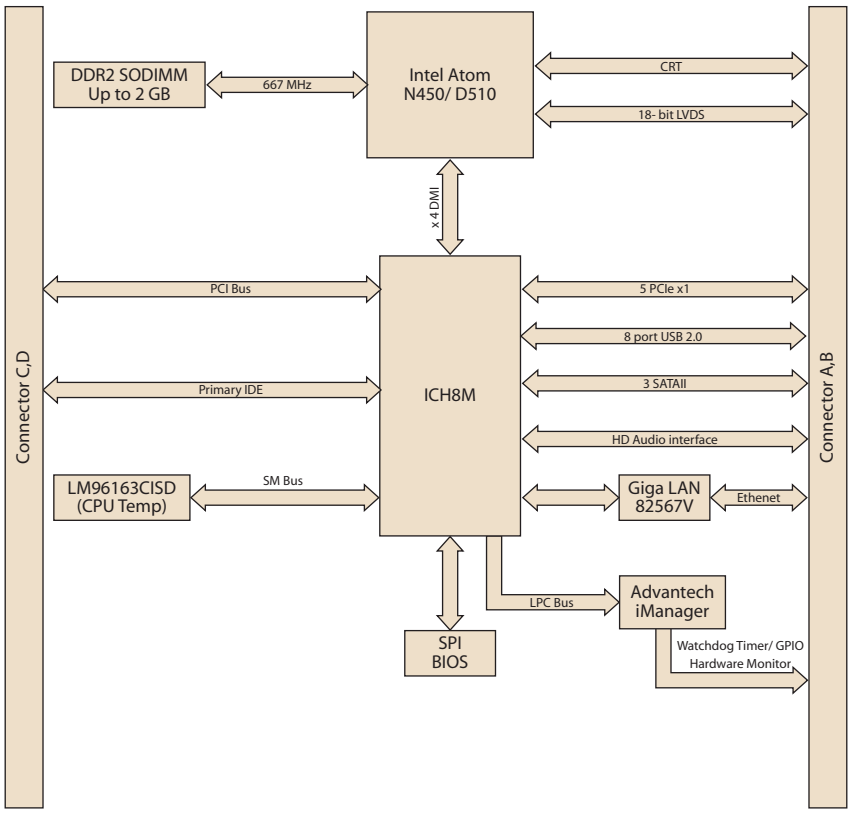
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Micro, Module Pin-out Type II	
Processor System	CPU	Intel Atom Processor N450 1.66 GHz (single core), 512 KB L2 Cache Intel Atom Processor D510 1.66 GHz (dual core), 1 MB L2 Cache	
	System Chipset	ICH8M	
	BIOS	AMI 16 Mbit Flash BIOS	
Memory	Technology	Supports DDR2 667 MHz only	
	Max. Capacity	up to 2 GB	
	Socket	2 x 200-pin SODIMM sockets (Atom D510)	
Display	Chipset	Intel Atom N450 or Intel Atom D510	
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW	
	LVDS	18-bit sig-l channel LVDS	
	VGA	Intel Atom N450 up to 1400 x 1050 Intel Atom D510 up to 2048 x 1536	
	DVI	-	
	TV Out	-	
	SDVO	-	
	Dual Display	CRT + LVDS	
Ethernet	Chipset	Intel 82567V Gigabit Ethernet	
	Speed	10/100/1000 Mbps	
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer	
Expansion		LPC, 5 PCIe x 1 (1 PCIe x 4), 4 PCI masters	
I/O	PATA	1 x EIDE (UDMA 100)	
	SATA	3 x SATAII (300 MB/s)	
	USB	8 x USB 2.0	
	Audio	High definition audio interface	
	GPIO	8-bit GPIO	
Power	Power Type	ATX, AT	
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT	
	Power Consumption (Typical)	6763N (1 GB DDRII 667) +12 V @ 0.67 A	6763D (1 GB DDRII667) +12 V @ 0.93 A
	Power Consumption (Max, test in HCT)	6763N (1 GB DDRII 667) +12 V @ 0.89 A	6763D (1 GB DDRII667) +12 V @ 1.32 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
	Operating Humidity	0% ~ 90% relative humidity, non-condensing	
Mechanical	Dimension	95 x 95 mm (3.74" x 3.74")	

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	Giga LAN	HD Audio	PCIe x 4	PCIe x 1	PCI	USB 2.0	SATA II	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6763N-S6A1E	Atom N450	512 KB	ICH8M	18-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6763D-S6A1E	Atom D510	1 MB	ICH8M	18-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Embedded OS

OS	Part No.	Description
Win XPE 2008	2070009031	XPE WES2009 Lu- Pier V4.0 MUI24

Packing List

Part No.	Description	Quantity
	SOM-6763 CPU Module	1
	Utility CD	1
1960047107N001	Heatspreader	1

SOM-6787

Intel® Core™2 Duo Processor GS45 COM-Micro CPU Module

Features

- Embedded Intel® Core™2 Duo/Celeron® M processor
- Intel GMA X4500 Gen 5 DX10, HW support for H.264, VC-1 and MPEG2
- Supports 2 DDR3 SODIMM up to 8 GB
- Supports PCIe x16, 5 PCIe x1, 4 PCI, LPC, 4 SATAII, 8 USB 2.0
- Supports embedded software APIs and Utilities

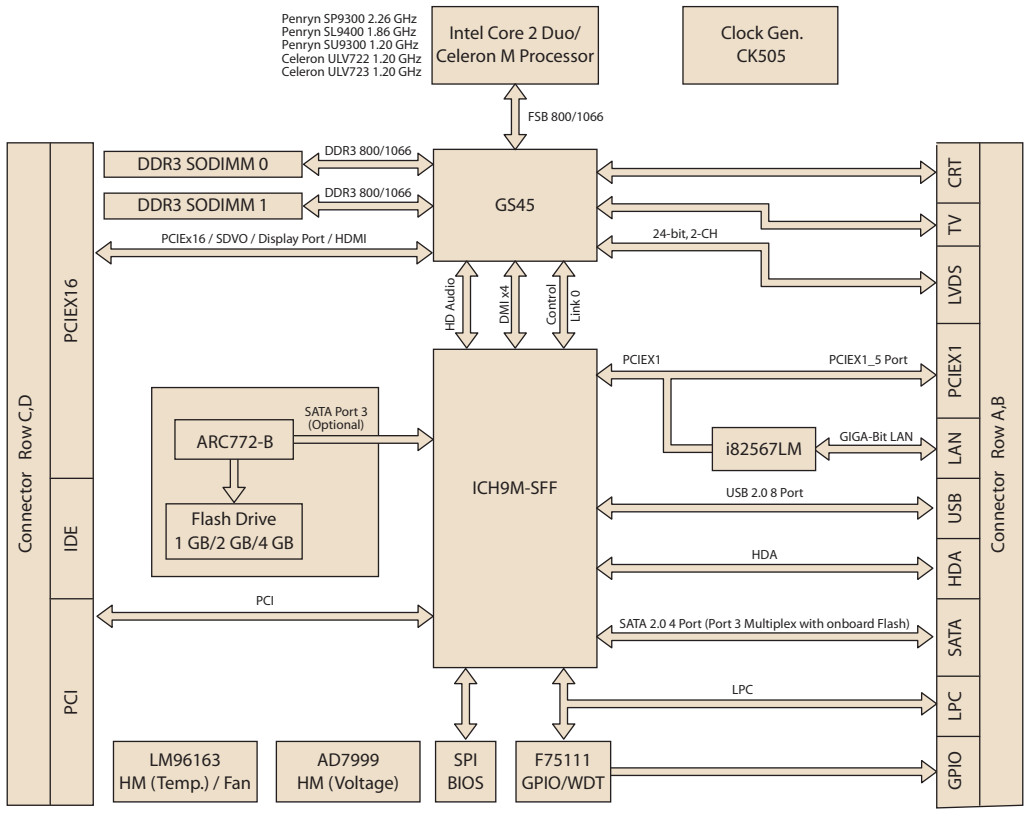
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Express, Module Pin-out Type II
Processor System	CPU	Intel Core 2 Duo SP9300, LV Core 2 Duo SL9400, ULV Core 2 Duo SU9300 Intel ULV Celeron M 722, ULV Celeron M 723
	Front Side Bus	800/1066 MHz
	System Chipset	Intel GS45/ICH9M SFF
	BIOS	AMI 32 Mbit Flash BIOS
Memory	Technology	DDR3 800/1066 MHz
	Max. Capacity	up to 8 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Chipset	Intel GS45
	VRAM	DVMT 5.0 supports up to 1024 MB
	Graphics Engine	Mobile Intel GMA X4500 3D/2D engine, HDMI, Displayport, SDVO shared with PCIe x16 (PEG)
	LCD	Single and dual channel 24/48-bit LVDS
	VGA	up to QXGA (2048 x 1536)
	TV-out	Yes
	SDVO	2 SDVO Ports
	Dual Display	Dual Display of VGA, LVDS,TV-out, HDMI, Displayport, SDVO (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82567 Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, PCIe x16, 5 PCIe x1, 4 PCI master
I/O	SATA	4 x SATAII
	USB	8 x USB 2.0 ports
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Typical)	(1 GB DDR3 1066) SP9300: +12V @ 0.66A
	Power Consumption (Max. test in HTC)	(1 GB DDR3 1066) SP9300: +12V @ 2.1A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	Giga LAN	HD Audio	PCIe x 16	PCIe x 1	PCI	USB 2.0	SATA	LPC	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6787FG-S1A1E	Intel ULV Celeron M 723 1.2 GHz	1 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	4 x SATAII	1	Yes	Yes	Active	0 ~ 60° C
SOM-6787FG-S2A1E	Intel ULV Celeron M 722 1.2 GHz	1 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	4 x SATAII	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6787FG-S3A1E	Intel ULV Core 2 Duo SU9300, 1.2 GHz	3 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	4 x SATAII	1	Yes	Yes	Active	0 ~ 60° C
SOM-6787FG-S9A1E	Intel LV Core 2 Duo SL9400, 1.86 GHz	6 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	4 x SATAII	1	Yes	Yes	Active	0 ~ 60° C
SOM-6787FG-U3A1E	Intel Core 2 Duo SP9300, 2.26 GHz	6 MB	Intel GS45	48-bit	Yes	2	1	Yes	1	5	4	8	4 x SATAII	1	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB5700G-00A2E	Development Board for COM-Express with GLAN

Optio-l Accessories

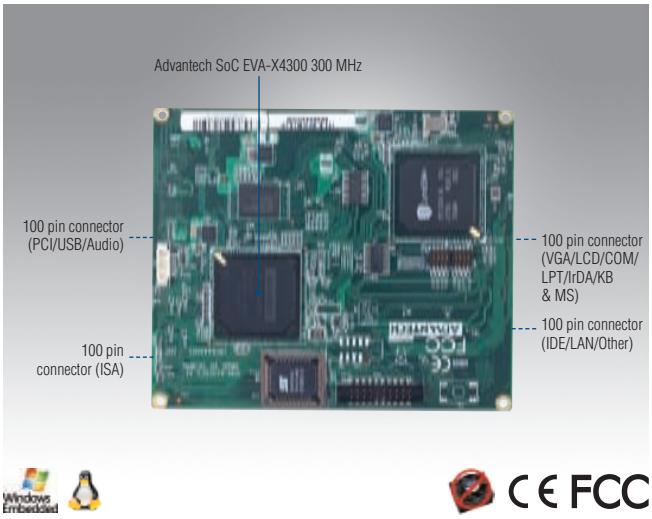
Part No.	Description
1960019182T10B	Semi- Cooler 95 x 125 x 22 mm with 12 V Fan

Packing List

Part No.	Description	Quantity
	SOM-5787 CPU Module	1
	Utility CD	1
	Heatspreader	1

SOM-4430

Advantech EVA-X4300 SoC ETX CPU Module


Advantech SoC EVA-X4300 300 MHz
100 pin connector (PCI/USB/Audio)
100 pin connector (VGA/LCD/COM/ LPT/IrDA/KB & MS)
100 pin connector (IDE/LAN/Other)
100 pin connector (ISA)

Features

- Embedded Advantech x86 SOC
- SMI 712, Supports 18-bit TTL/VGA
- Onboard DDRs 128/64 MB
- Supports ISA, 4 PCI Master, 1 IDE, 4 USB2.0, 2 COMs, LPT
- Supports embedded software APIs and Utilities

Software APIs: Watchdog, GPIO

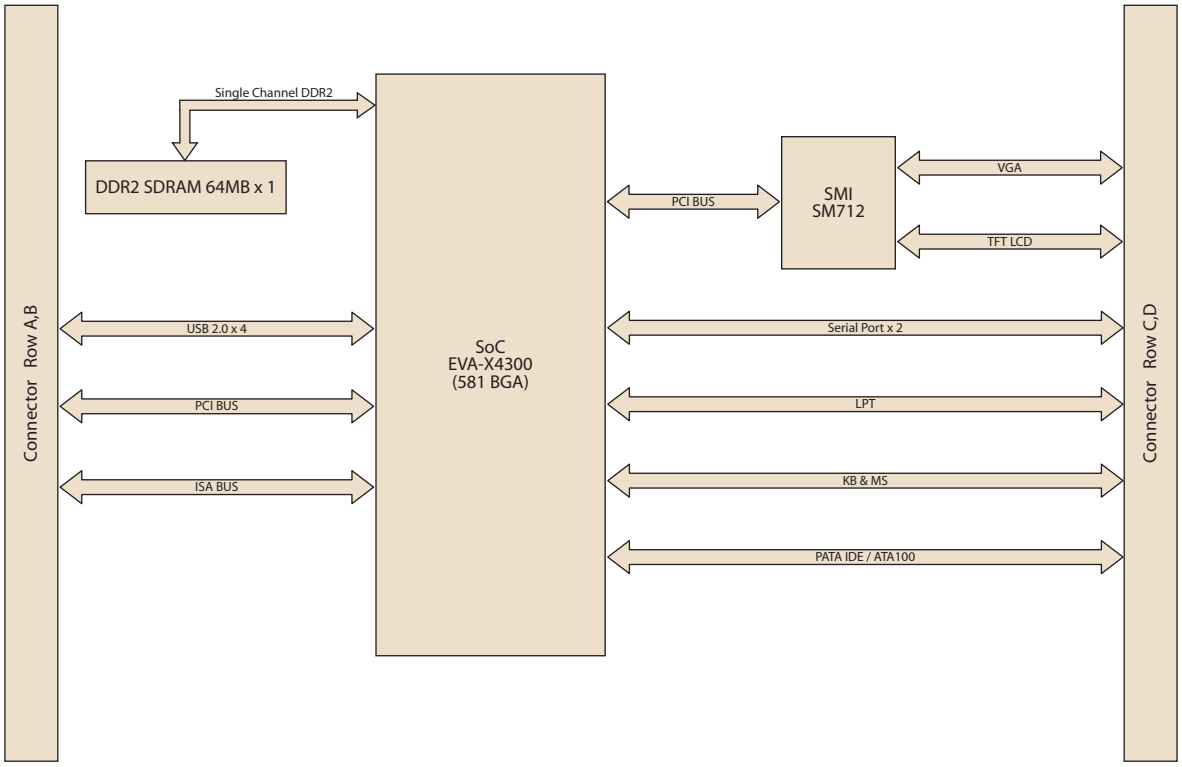
Utilities: Monitoring

Specifications

Form Factor		ETX
Processor System	x86 SoC	Advantech EVA-X4300 SoC
	Front Side Bus	33 MHz
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2
	Max. Capacity	On board 128/64 MB
Display	Chipset	SMI 712
	VRAM	4 MB graphic memory
	Graphics Engine	SMI 712
	LCD	18-bit TTL
	VGA	up to 1024 x 768
	Dual Display	CRT + LCD (Simultaneous mode)
WatchDog Timer		24-bit timer interval, from 30.5μ sec. to 512 sec. setup by software, jumperless selection, generates system reset
Expansion		* 4 x PCI Master, ISA
I/O	PATA	1 x EIDE (UDMA 100)
	USB	4 x USB 2.0
	COM	2 COM ports
	FDD/LPT	1 x LPT
Power	Power Type	AT
	Power Supply Voltage	+5 V only
	Power Consumption (Max, test in HCT)	Max: +5 V @ 0.7 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

*For the PCI design of SOM-4430, please refer to Advantech ETX design guide.

Board Diagram



Ordering Information

Part No.	SoC	On Board Memory	VGA	PCI	USB 2.0	AT Power	Thermal Solution	Operating Temp.
SOM-4430F-GDA1E	EVA-X4300	64 MB	Yes	4	4	Yes	Passive	0 ~ 60° C
SOM-4430F-GEA1E	EVA-X4300	128 MB	Yes	4	4	Yes	Passive	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Embedded OS

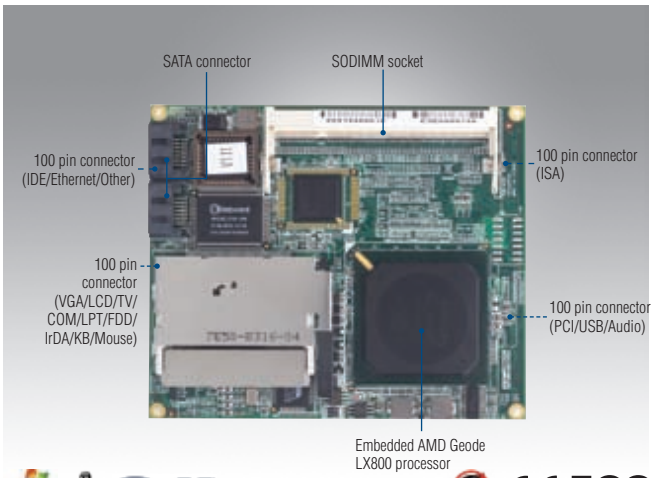
OS	Part No.	Description
WinCE 6.0 Pro	2070006949	Image CE 6.0 Pro EVA-4150-4COM V1.1 ENG

Packing List

Part.No.	Description	Quantity
	SOM-4430 CPU Module	1
	Utility CD	1

SOM-4455

AMD Geode™ LX800 ETX CPU Module



Features

- CPU:Embedded AMD Geode™ LX800 CPU+ AMD CS5536 Chipset
- Graphics: AMD CS5536 Integrated 2D engine, Supports 24-bit LVDS or 18-bit TTL
- Memory: Supports one DDR-400 memory SODIMM sockets up to 1GB
- Interface & IO: Supports 1 IDE, 2 SATA, 4 USB2.0, 2 COMs, FDD/LPT, Type II CF, Line In/Out, Mic-In
- Software support: Supports embedded software APIs and Utilities

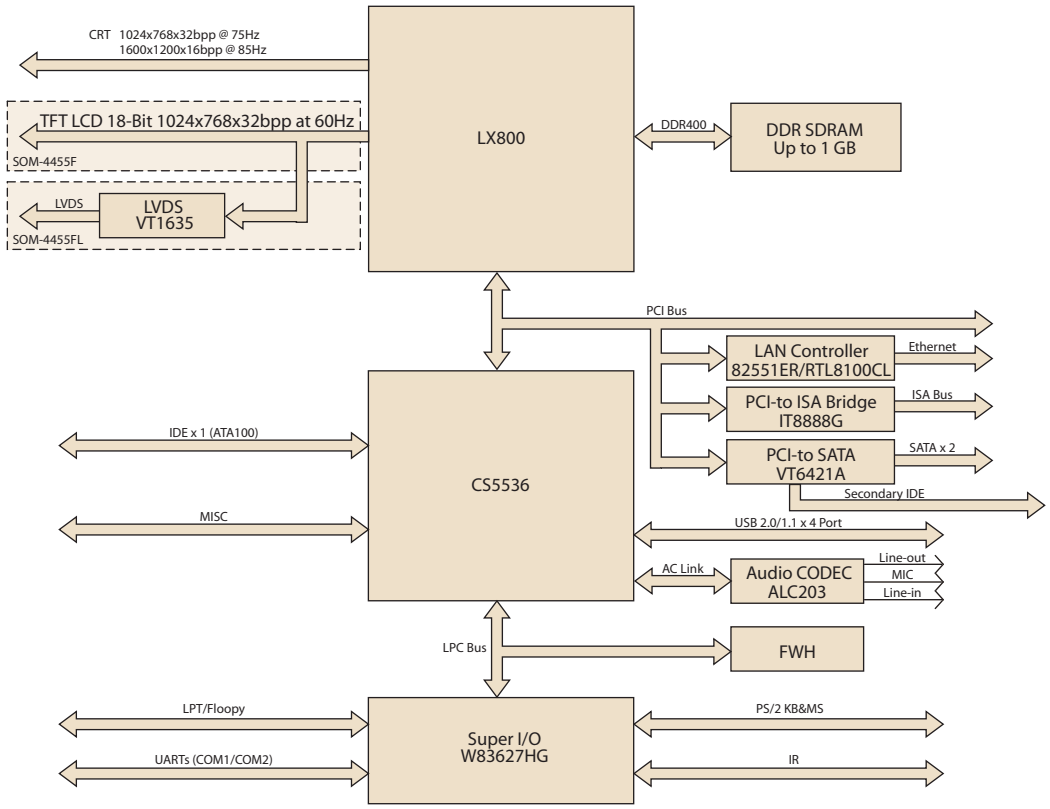
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Form Factor		ETX 3.0
Processor System	CPU	AMD Geode LX800
	Front Side Bus	33 MHz
	System Chipset	AMD Geode LX800/CS5536
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR 200/266/333/400 MHz
	Max. Capacity	up to 1 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	AMD CS5536
	VRAM	Shared system memory up to 254 MB
	Graphics Engine	AMD CS5536 2D engine
	LCD	24-bit single channel LVDS or 18-bit single channel TTL
	VGA	up to 1024 x 768
	Dual Display	CRT + LCD (Simultaneous mode)
Ethernet	Chipset	Intel 82551ER 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 timer intervals, from 1 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		4 x PCI master (3 x PCI master for SATA version), ISA
I/O	PATA	1 x EIDE (UDMA 100) (2 x EIDE for SATA version)
	SATA	2 x SATA on ETX CPU module (For SATA version)
	USB	4 x USB 2.0
	Audio	Realtek ALC203 AC97 Codec support Line-in/out, Mic-in
	GPIO	1-bit GPIO, 2-bit GPE
	COM	2 COM ports
	FDD/LPT	1 x FDD or LPT
	SSD	1 x Type II CF slot
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V only (+5 VSB needs for ATX)
	Power Consumption (Typical)	Typical: (1 GB DDR 333) +5 V @ 1.80 A (AMD LX800)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR 333) +5 V @ 2.01 A (AMD LX800)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	10/100 LAN	AC97 Audio	PCI	USB 2.0	SATA	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4455F-L0A2E	AMD LX800	128 KB	LX800	--	Yes	Yes	Yes	4	4	--	Yes	Yes	Passive	0 ~ 60° C
SOM-4455FL-L0A2E	AMD LX800	128 KB	LX800	24-bit	Yes	Yes	Yes	4	4	--	Yes	Yes	Passive	0 ~ 60° C
SOM-4455F-LSA2E	AMD LX800	128 KB	LX800	--	Yes	Yes	Yes	3	4	2	Yes	Yes	Passive	0 ~ 60° C
SOM-4455FL-LSA2E	AMD LX800	128 KB	LX800	24-bit	Yes	Yes	Yes	3	4	2	Yes	Yes	Passive	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB4400-00A2E	Development Board for ETX Rev.A2
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Optio-l Accessories

Part No.	Description
1960021993T00B	Heatsink

Packing List

Par No.	Description	Quantity
	SOM-4455 CPU Module	1
	Utility CD	1
1960007057	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070001579	CE60 Pro GX3 V1.0 ENG
Win XPE 2008	2070007910	XPE WES2009 GX3 LX800 V4.0 MUI24
QNX 6.4.1		BSP ready

SOM-4461

Intel® Atom™ Processor N270 ETX CPU Module

Features

- Embedded Intel® Atom™ Processor N270 1.6 GHz + 945GSE + ICH7M
- Intel GMA 950, Microsoft DirectX 9.1, Supports 36-bit LVDS TFT LCD
- Supports one DDR2-533 memory SODIMM sockets up to 2 GB
- Interface & I/O: Supports 3 PCIe x1, 4 PCI Master, LPC, 1 IDE, 2 SATA, 4 USB 2.0, 2 COMs, FDD/LPT, Line-in/out, Mic-in
- Supports embedded software APIs and Utility

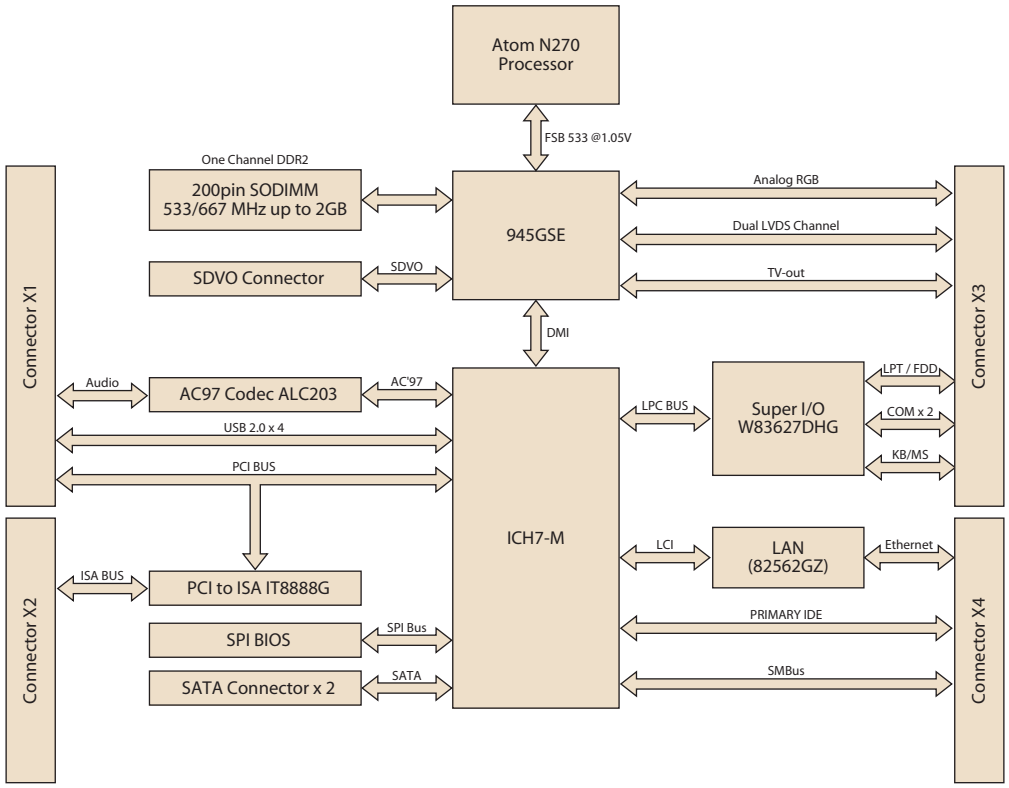
Software APIs: SMBus, H/W Monitor, I²C, Watchdog, GPIO

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		ETX 3.0
Processor System	CPU	Embedded Intel Atom Processor N270 1.6 GHz
	Front Side Bus	533 MHz
	System Chipset	Intel 945GSE/ ICH7M
	BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 945GSE
	VRAM	DVMT 3.0 supports up to 224 MB
	Graphics Engine	Intel GMA950, Microsoft DirectX* 9.1
	LVDS	Single and dual channel 18/36-bit LVDS
	VGA	up to 2048 x 1536
	DVI	-
	TV Out	Supports NTSC/PAL, S-Video and Composite Output interfaces
	SDVO	1 SDVO Port
	Dual Display	CRT + LVDS, TV out + LVDS, TV out + CRT (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82562GZ 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 levels timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		4 x PCI master, ISA
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATA (On ETX CPU module)
	USB	4 x USB 2.0
	Audio	Realtek ALC203 AC97 Codec support Line-in / out, Mic-in
	GPIO	2-bit GPIO (Supports by customized BIOS)
	COM	2 COM ports
	FDD/LPT	1 x FDD or LPT
	SSD	-
Power	Power Type	ATX, AT
	Power Supply Voltage	+5V only (+5VSB needs for ATX)
	Power Consumption (Typical)	Typical: (1 GB DDRII 533) +5 V @ 1.15 A
	Power Consumption (Max, test in HCT)	Max: (1 GB DDRII 533) +5 V @ 1.98 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	TV out	10/100 LAN	AC97 Audio	PCI	USB 2.0	SATA	LPT/ Floppy	KB/ MS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4461FL-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	Yes	Yes	4	4	2	Note1	Yes	Yes	Yes	Passive	0 ~ 60 °C
SOM-4461Z-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	Yes	Yes	4	4	2	Note1	Yes	Yes	Yes	Passive	-20 ~ 80 °C
SOM-4461Z2-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	Yes	Yes	4	4	2	Note1	Yes	Yes	Yes	Passive	-40 ~ 85 °C

Note1: Select Parallel function and floppy via BIOS selection. Default mode is Parallel mode.

Development Board

Part No.	Description
SOM-DB4400-00A2E	Development Board for ETX Rev.A2
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Optio-l Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm

Packing List

Part No.	Description	Quantity
	SOM-4461 CPU Module	1
	Utility CD	1
1960035037N00B	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE 2008	2070007912	XPE WES2009 Intel-Uniprocess V4.0 MUI2
QNX 6.4.1		BSP ready

SOM-4463

Intel® Atom™ Processor N450/D510 ETX CPU Module

Prelimi-ry

Features

- Embedded Intel® Atom™ Processor N450 1.66 GHz single core/ D510 1.66 GHz dual-core + ICH8M
- Intel Gen 3.5 DX9, MPEG2 Decode in HW, multiple display: VGA, 18-bit LVDS
- Supports DDR2 SODIMM up to 2 GB
- Supports 4 PCI, 2 SATAII, 4 USB 2.0, ISA
- Supports embedded software APIs and Utilities

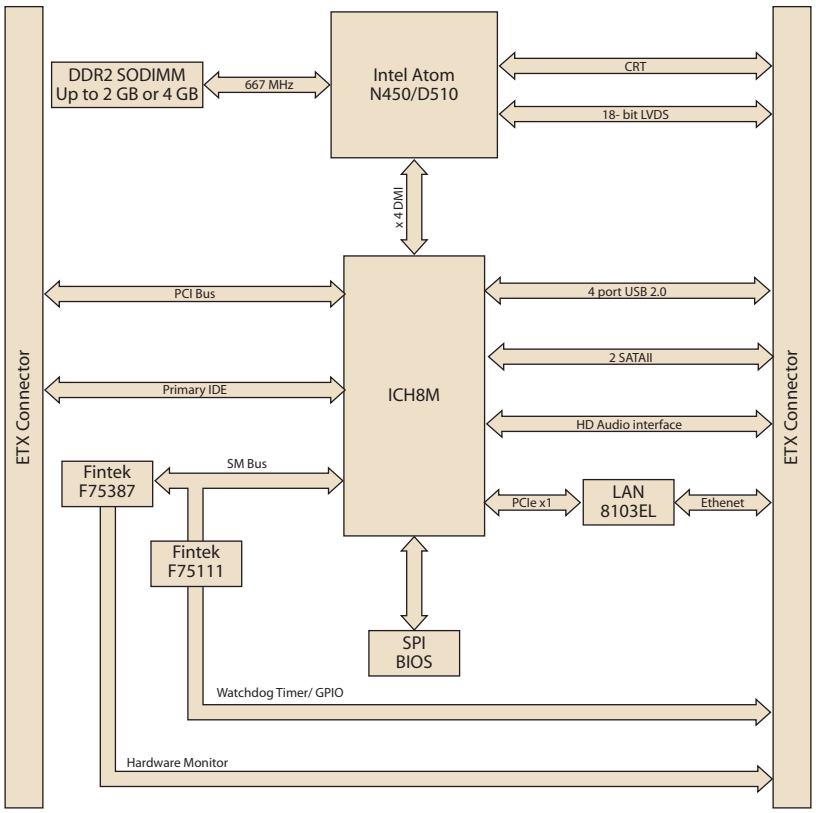
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Brightness, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		ETX 3.0
Processor System	CPU	Intel Atom N450 1.67 GHz (single core), 512 KB L2 Cache Intel Atom D510 1.67 GHz (dual core), 1 MB L2 Cache
	System Chipset	ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR2 667 MHz
	Max. Capacity	Up to 2 GB (N450) Up to 4 GB (D510)
	Socket	1 x 200-pin SODIMM sockets
Display	Chipset	Intel Atom N450 or Intel Atom D510
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW
	LVDS	18-bit single channel LVDS
	VGA	Intel Atom N450 Single Core up to 1400 x 1050 (SXGA) Intel Atom D510 Dual Core up to 2048 x 1536
	DVI	-
	TV Out	-
	SDVO	-
	Dual Display	CRT + LVDS
Ethernet	Chipset	Realtek 8103EL 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		ISA, 4 PCI masters
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATAII (300 MB/s)
	USB	4 x USB 2.0
	Audio	AC97 Audio
	GPIO	1-bit GPIO, 2-bit GPE
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V (+5 Vsb for ATX)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	95 x 114 mm (3.74" x 4.5")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	10/100 LAN	AC97 Audio	PCI	USB 2.0	SATA	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4463N-S6A1E	Atom N450	512 KB	ICH8M	18-bit	Yes	1	Yes	4	4	2 x SATAII	1	Yes	Yes	Passive	0 ~ 60° C
SOM-4463D-S6A1E	Atom D510	1 MB	ICH8M	18-bit	Yes	1	Yes	4	4	2 x SATAII	1	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB4400-00A2E	Development Board for ETX Rev.A2
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Packing List

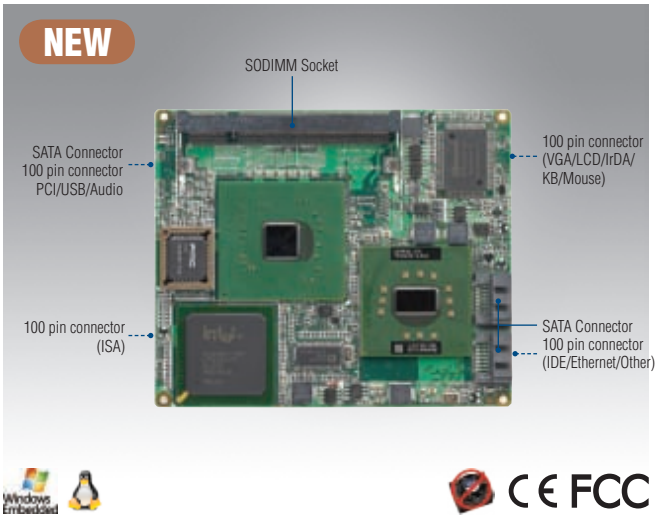
Part No.	Description	Quantity
	SOM-4463 CPU Module	1
	Utility CD	1
	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE 2008	2070007912	XPE WES2009 Intel-Uniprocess V4.0 MUI2
QNX 6.4.1		BSP ready

SOM-4487

Intel® Pentium® M Processor, 915GME/910GMLE ETX CPU Module



Features

- Embedded Intel Pentium M/Celeron® M processor +915GME + ICH6M
- Intel GMA 900 graphic engine, Supports 24-bit LVDS
- Supports DDR2 SODIMM up to 2 GB
- Supports 4 PCI, LPC, 2 SATAII, 1 IDE, 4 USB 2.0
- Supports embedded software APIs and Utilities

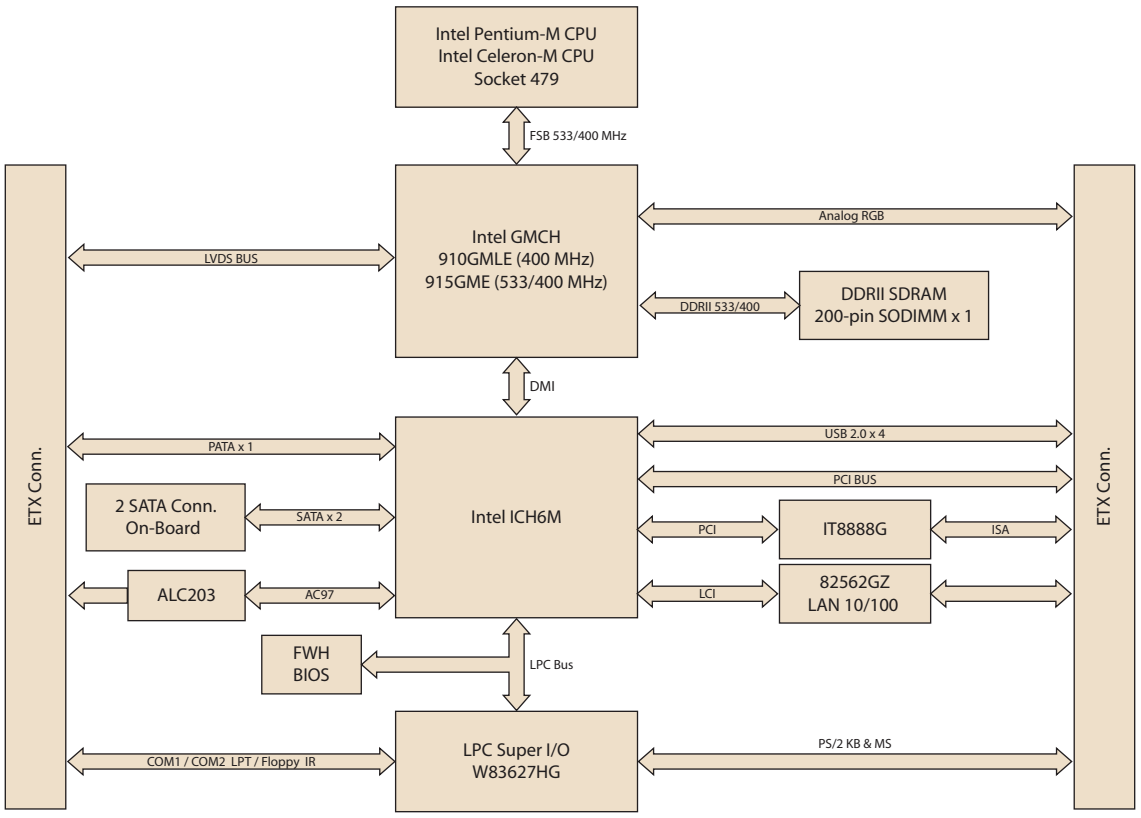
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring, Flash Lock

Specifications

Form Factor		ETX 3.0
Processor System	CPU	Intel Pentium M/Celeron M Processor
	Front Side Bus	533/400 MHz
	System Chipset	Intel 915GME (910GMLE) GMCH/ICH6M
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz (400 MHz for 910GMLE)
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 915GME(910GMLE)
	VRAM	DVMT 3.0 supports up to 128 MB
	Graphics Engine	Mobile Intel GMA900 3D/2D engine
	LCD	Single and dual channel 18/36-bit LVDS
	VGA	up to 2048 x 1536
	Dual Display	CRT + LCD
Ethernet	Chipset	Intel 82562GZ 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 timer intervals, from 1 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		4 x PCI master, ISA
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATA (On ETX CPU module)
	USB	4 x USB 2.0
	Audio	Realtek ALC203 AC97 Codec support Line-in/out, Mic-in
	GPIO	1-bit GPIO
	COM	2 COM ports
	FDD/LPT	1 x FDD or LPT
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V only (+5 VSB needs for ATX)
	Power Consumption (Typical)	Typical: (1 GB DDR2 533) +5 V @ 3.66 A (Intel Pentium M 760, 2.0G) (915GME) +5 V @ 2.63 A (Intel Pentium M LV 738, 1.4G) (915GME) +5 V @ 2.40 A (Intel Celeron M 373, 1.0G) (910GMLE) +5 V @ 2.37 A (Celeron M 373 0KB, 1.0G) (910GMLE) +5 V @ 2.23 A (Celeron M 600MHz) (910GMLE)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR2 533) +5 V @ 6.12 A (Intel Pentium M 760, 2.0G) (915GME) +5 V @ 3.84 A (Intel Pentium M LV 738, 1.4G) (915GME) +5 V @ 3.13 A (Intel Celeron M 373, 1.0G) (910GMLE) +5 V @ 3.08 A (Celeron M 373 0KB, 1.0G) (910GMLE) +5 V @ 2.82 A (Celeron M 600MHz) (910GMLE)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	10/100 LAN	AC97 Audio	PCI	USB 2.0	SATA	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4487FL-00A1E	Socket		915GME	2 x 18-bit	Yes	Yes	Yes	4	4	2	Yes	Yes	Active	0 ~ 60° C
SOM-4487FL-S4A1E	Pentium M LV 738	2 MB	915GME	2 x 18-bit	Yes	Yes	Yes	4	4	2	Yes	Yes	Active	0 ~ 60° C
SOM-4487FL-S1A1E	Celeron M 373	512 KB	910GMLE	2 x 18-bit	Yes	Yes	Yes	4	4	2	Yes	Yes	Passive	0 ~ 60° C
SOM-4487FL-M0A1E	Celeron M 600 MHz	512 KB	910GMLE	2 x 18-bit	Yes	Yes	Yes	4	4	2	Yes	Yes	Passive	0 ~ 60° C
SOM-4487FL-S0A1E	Celeron M 1 GHz	0 KB	910GMLE	2 x 18-bit	Yes	Yes	Yes	4	4	2	Yes	Yes	Passive	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB4400-00A2E	Development Board for ETX Rev.A2
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Optio-l Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm
1750001980	Semi-Cooler 114 x 96 x 15 mm 12 V Fan

Packing List

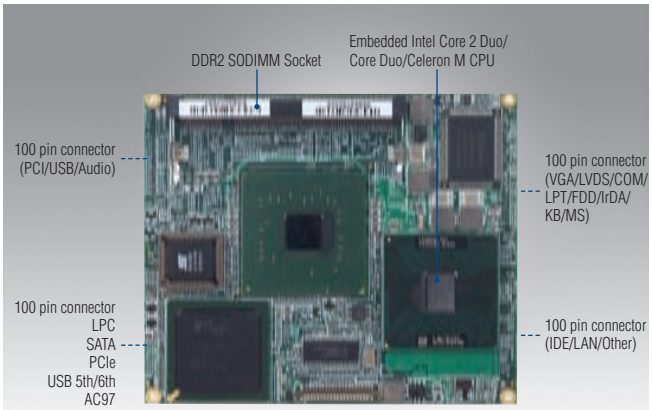
Part No.	Description	Quantity
	SOM-4487 CPU Module	1
	Utility CD	1
1960028600N00B	Heatspreader (SOM-4487FL-00A1E only)	1
1960028601N00B	Heatspreader (SOM-4487FL-M0A1E, SOM-4487FL-S0A1E, SOM-4487FL-S1A1E, SOM-4487FL-S4A1E)	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
QNX 6.4.1		BSP ready

SOM-4780

Intel® Core™2 Duo Processor 945GME XTX CPU Module


DDR2 SODIMM Socket
Embedded Intel Core 2 Duo/ Core Duo/Celeron M CPU
100 pin connector (PCI/USB/Audio)
100 pin connector (VGA/LVDS/COM/ LPT/FDD/IrDA/ KB/MS)
100 pin connector LPC SATA PCIe USB 5th/6th AC97
100 pin connector (IDE/LAN/Other)

Features

- Embedded Intel Core 2 Duo/Celeron M processor +945GME + ICH7M
- Intel GMA 950 graphic engine, Supports 18/36-bit LVDS
- Supports DDR2 SODIMM up to 2 GB
- Supports 4 PCIe x 1, LPC, 2 SATA, 1 EIDE, 6 USB 2.0
- Supports embedded software APIs and Utilities

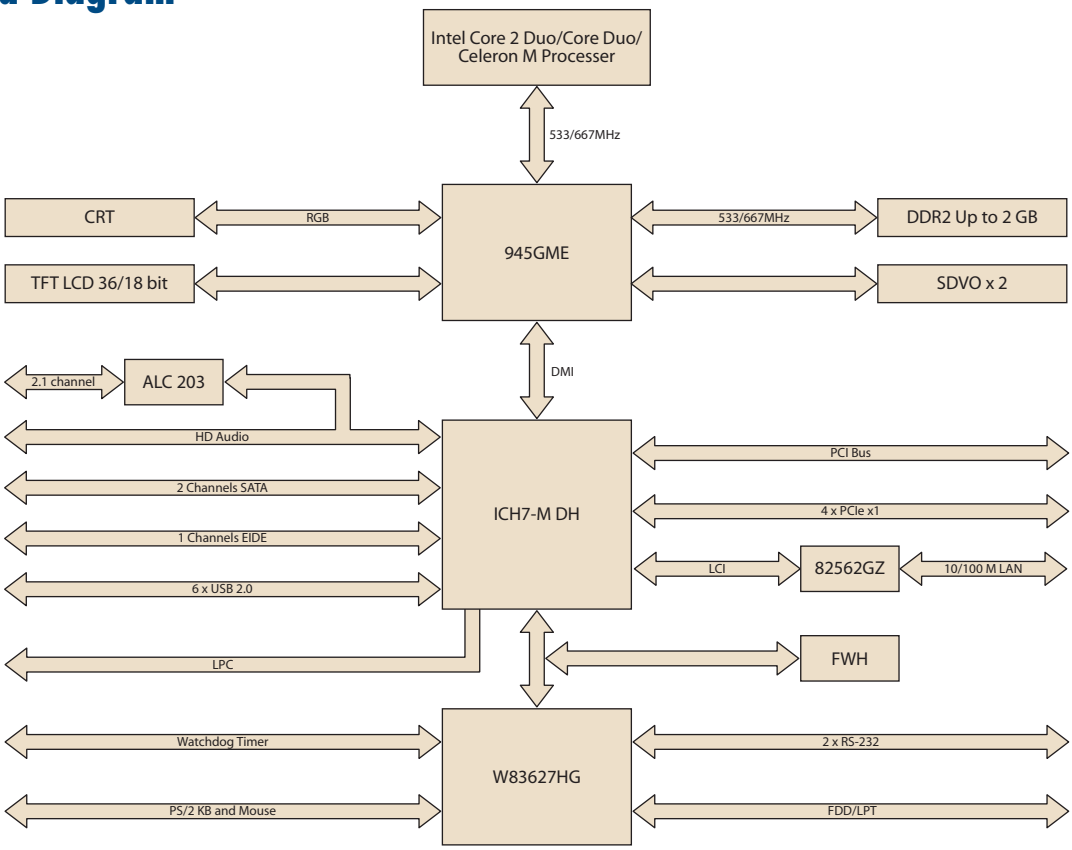
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring, Flash Lock

Specifications

Form Factor		XTX 1.0
Processor System	CPU	Intel Core 2 Duo/Celeron M Processor
	Front Side Bus	533/667MHz
	System Chipset	Intel 945GME GMCH/ICH7-M DH
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR2 533/667 MHz
	Max. Capacity	up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 945GME
	VRAM	DVMT 3.0 supports up to 224 MB
	Graphics Engine	Mobile Intel GMA 950 3D/2D engine
	LCD	Single and dual channel 18/36-bit LVDS
	VGA	up to 2048 x 1536
	SDVO	2 SDVO Ports
	Dual Display	CRT + LCD (Note: SDVO function is supported by customized BIOS)
Ethernet	Chipset	Intel 82562GZ 10/100 M Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, 4 PCIe x1, 4 PCI master
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATA
	USB	6 x USB 2.0
	Audio	AC97/ High definition audio interface
	GPIO	1-bit GPIO, 2-bit GPE
	COM	2 COM ports
	FDD/LPT	1 FDD or LPT
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V only (+5 VSB needs for ATX)
	Power Consumption (Typical)	Typical: (1 GB DDRII 533) +5 V @ 2.34 A (L2400)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDRII 533) +5 V @ 3.80 A (L2400)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	TV out	10/100 LAN	AC97 Audio	PCIe x 1	PCI	USB 2.0	SATA	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4780FL-00A2E	Socket		945GME	2 x 18-bit	Yes	2	Yes	1	Yes	4	4	6	2	Yes	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-4780FL-S0A2E	Celeron M 423	1 MB	945GME	2 x 18-bit	Yes	2	Yes	1	Yes	4	4	6	2	Yes	Yes	Yes	Yes	Passive	0 ~ 60° C
SOM-4780FL-S1A2E	Core 2 Duo U7500	4 MB	945GME	2 x 18-bit	Yes	2	Yes	1	Yes	4	4	6	2	Yes	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-4780FL-S5A2E	Core 2 Duo L7400	4 MB	945GME	2 x 18-bit	Yes	2	Yes	1	Yes	4	4	6	2	Yes	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-4780FL-S7A2E	Core Duo L2400	2 MB	945GME	2 x 18-bit	Yes	2	Yes	1	Yes	4	4	6	2	Yes	Yes	Yes	Yes	Active	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB4700X-00A1E	Development Board for XTX Rev.A1

Optio-l Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm
1750001980	Semi-Cooler 114 x 96 x 15 mm 12 V Fan

Packing List

Part No.	Description	Quantity
	SOM-4780 CPU Module	1
	Utility CD	1
1960012089T00B	Heatspreader (SOM-4780FL-00A2E only)	1
1960012090T00B	Heatspreader (SOM-4780FL-S0A2E, SOM-4780FL-S5A2E, SOM-4780FL-S7A2E)	1

Embedded OS

OS	Part No.	Description
WinCE 6.0 Pro	2070007811	CE60 Pro Intel (852/855/915/945) 2COM V1.2 ENG
QNX 6.4.1		BSP ready

SOM-7562

Intel® Atom™ Processor N450 COM-Ultra CPU Module

Prelimi-ry

Features

- Embedded Intel® Atom™ Processor N450 1.66 GHz + ICH8M
- Intel Gen 3.5 DX9, MPEG2 Decodes in HW, supports 18-bit LVDS, VGA
- Supports 512MB on-board memory and 1/2 GB on-board Flash
- Supports 5 PCIe x1, LPC, 3 SATAII, 8 USB 2.0, GbE
- Supports embedded software APIs and Utilities

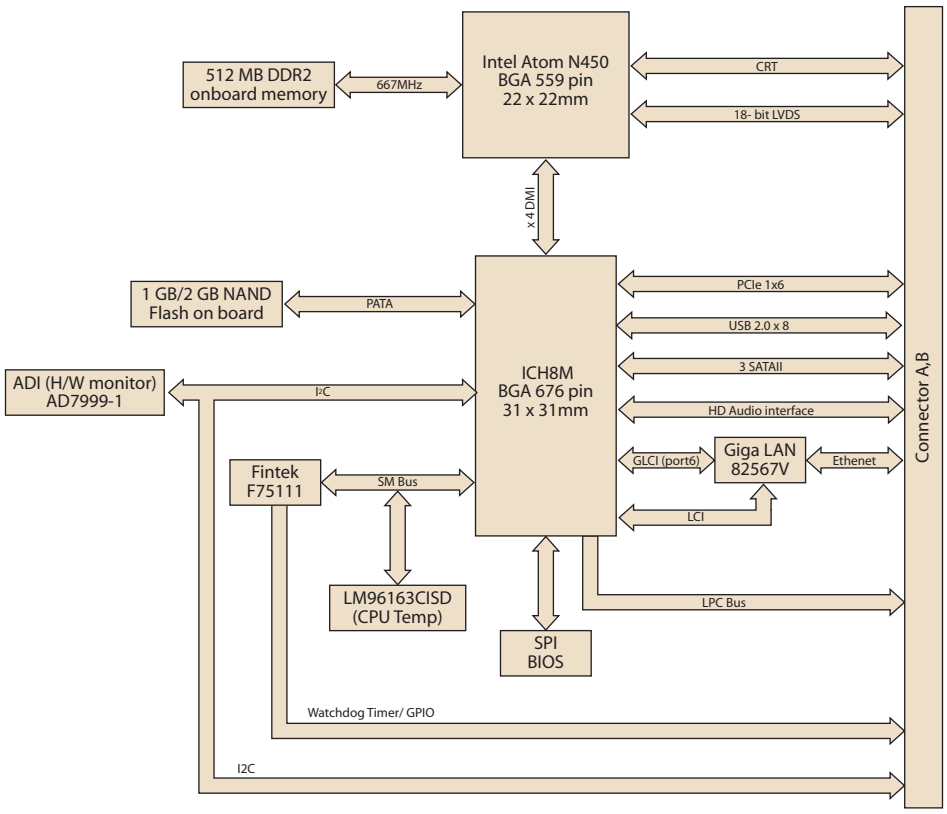
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Form Factor		COM-Ultra, Module Pin-out Type I
Processor System	CPU	Intel Atom Processor N450 1.66 GHz
	L2 Cache	512 KB
	System Chipset	ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR2 667 MHz memory only
	Max. Capacity	Onboard 512 MB
	Socket	-
Flash	Capacity	1 GB/ 2 GB Flash onboard
Display	Chipset	Embedded Gen3.5+ GFX Core
	Graphics Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW
	LVDS	18-bit single channel LVDS
	VGA	Supports max. 1400 x 1050 @ 60 Hz
	DVI	-
	TV Out	-
	SDVO	-
	Dual Display	CRT + LVDS
Ethernet	Chipset	Intel 82567V Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, 5 PCIe x 1 (1 PCIe x 4 or 1 PCIe x 2 option)
I/O	PATA	-
	SATA	3 x SATAII (300 MB/s)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	12 V (5 VSB needs for ATX power mode), wide range voltage support by project base
	Power Consumption (Typical)	+12 V @ 0.6 A
	Power Consumption (Max, test in HCT)	+12 V @ 0.7 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	84 x 55 mm (3.3" x 2.17")

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	Onboard Memory	Onboard Flash	LVDS	VGA	Giga LAN	HD Audio	PCIe x 4	PCIe x 1	USB 2.0	SATA II	LPC	SMBUS	Wide range Power	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-7562F1-S6A1E	Intel Atom N450	512 KB	ICH8M	512 MB	1 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	0 ~ 60 °C
SOM-7562F2-S6A1E	Intel Atom N450	512 KB	ICH8M	512 MB	2 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	0 ~ 60 °C

Development Board

Part No.	Description
SOM-DB5700G-U0A2E	Development Board for COM-Ultra with GLAN

Embedded OS

OS	Part No.	Description
Win XPE 2008	2070009031	XPE WES2009 Lu- Pier V4.0 MUI24

Packing List

Part No.	Description	Quantity
	SOM-7562 CPU Module	1
	Utility CD	1
	Heatspreader	1

SOM-3560

Intel® Atom™ Processor SCH US15W Q7 CPU Module

Prelimi-ry

Features

- Intel® Atom™ processor Z510 1.1 GHz, Z530 1.6 GHz
- Intel GMA integrated in US15W
- Supports onboard DDR2 512 MB/1 GB Memory
- LPC, 1 PCIe x1, 8 x USB 2.0, up to 2 GB onboard flash
- Supports Embedded Software APIs and Utilities

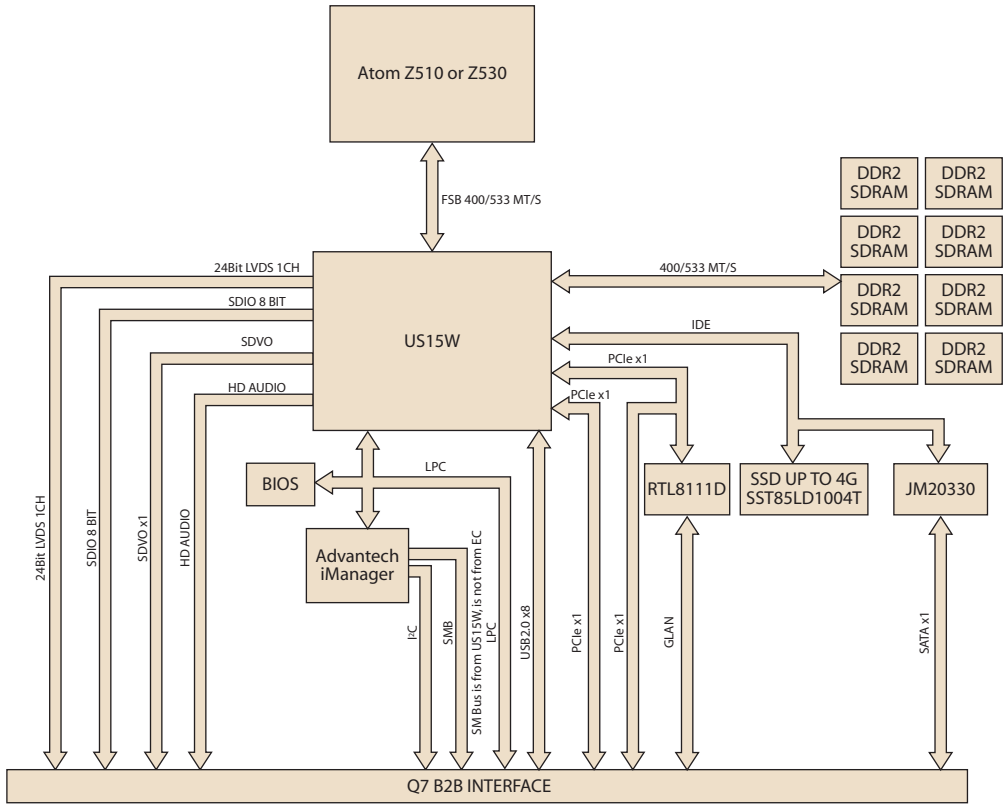
Software APIs: Watchdog, I²C, SMBus, H/W Monitor

Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Form Factor		Q7 form factor
Processor System	CPU	Intel Atom processor Z510 1.1 GHz, Z530 1.6 GHz
	System Chipset	US15W
	BIOS	Award 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	up to 1 GB
	Socket	onboard 512 MB/1 GB memory
Display	Chipset	Intel GMA integrated in US15W
	Graphics Engine	DirectX 9Ex. Supports H.264, MPEG2 and MPEG4 hardware decoder
	LVDS	24-bit single channel LVDS
	SDVO	Yes
Ethernet	Chipset	Realtek 8111D Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		LPC, 1 PCIe x 1
I/O	PATA	-
	SATA	1 x SATAII (300 MB/s)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	SSD	Up to 2GB SSD flash on board
	SDIO	8-bit SDIO
Power	Power Type	ATX, AT
	Power Supply Voltage	5V only
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	70 x 70 mm

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	IDE	Memory	LVDS	VGA	Giga LAN	HD Audio	PCIe x 1	USB 2.0	SATA II	LPC	SMBUS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-3560FL-S1A1E	1.1 GHz	512 KB L2	Intel US15W	-	512 MB	18/24-bit	-	1	Yes	1	8	1	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-3560FL-S6A1E	1.6 GHz	512KB L2	Intel US15W	No, 2 GB onboard flash	1 GB	18/24-bit	-	1	Yes	1	8	1	1	1	Yes	Yes	Passive	0 ~ 60° C

Development Board

Part No.	Description
SOM-DB3500	Development Board for Q7 with GLAN

Embedded OS

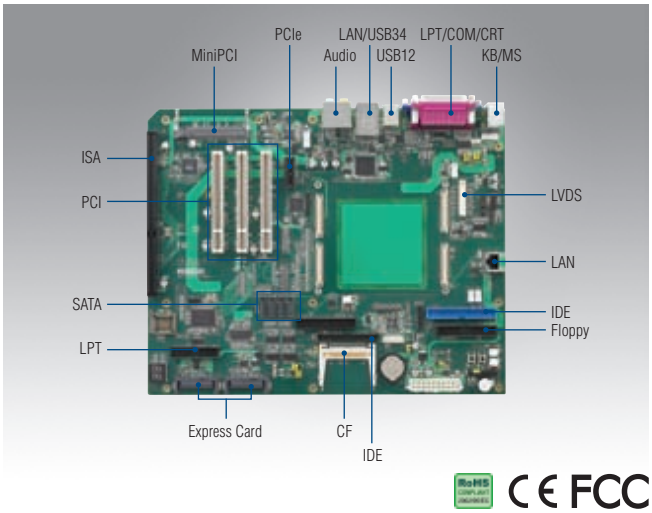
OS	Part No.	Description
Win XPE 2008	2070009031	XPE WES2009 Lu- Pier V4.0 MUI24

Packing List

Part No.	Description	Quantity
	SOM-3560 CPU Module	1
	Utility CD	1
	Heatspreader	1

SOM-DB4700

ETX/XTX Development Board



Features

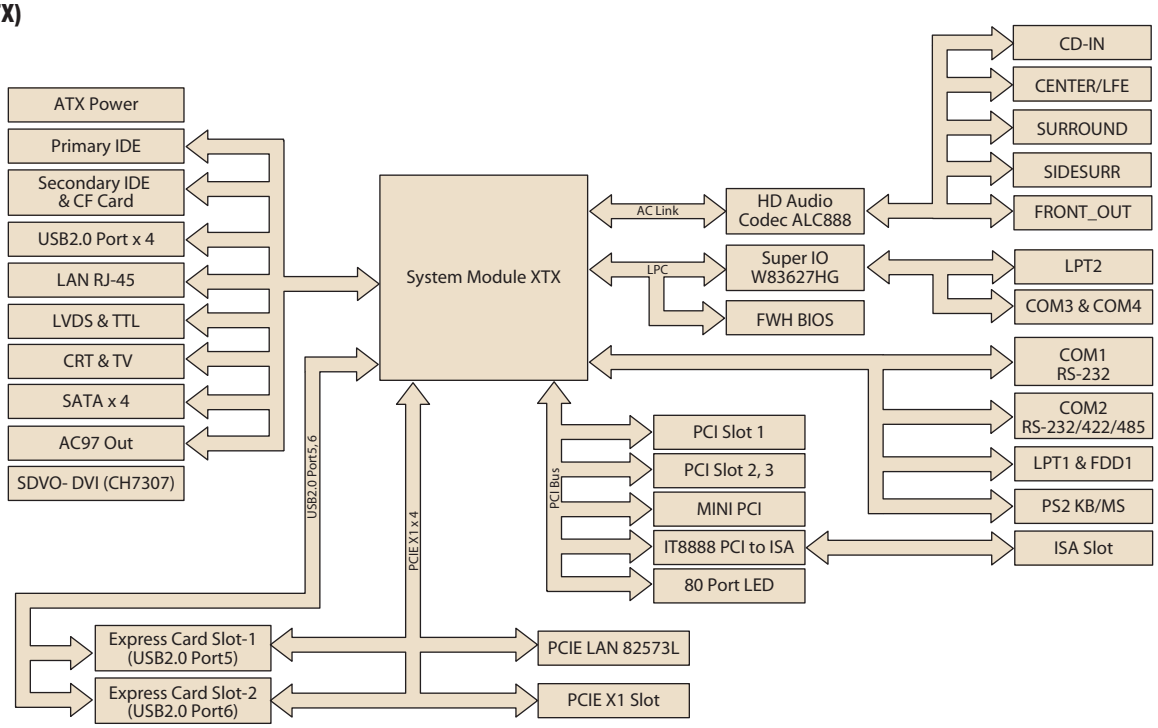
- ETX/XTX Development Board
- ATX form factor
- Display type: LVDS, DVI, VGA, TV out
- Expansion: 2 Express Card, 3 PCI, 1 MiniPCI, 1 ISA bus slot
- SATA/EIDE/FDD/LPT/Keyboard/Mouse/USB/Audio/SSD interface

Specifications

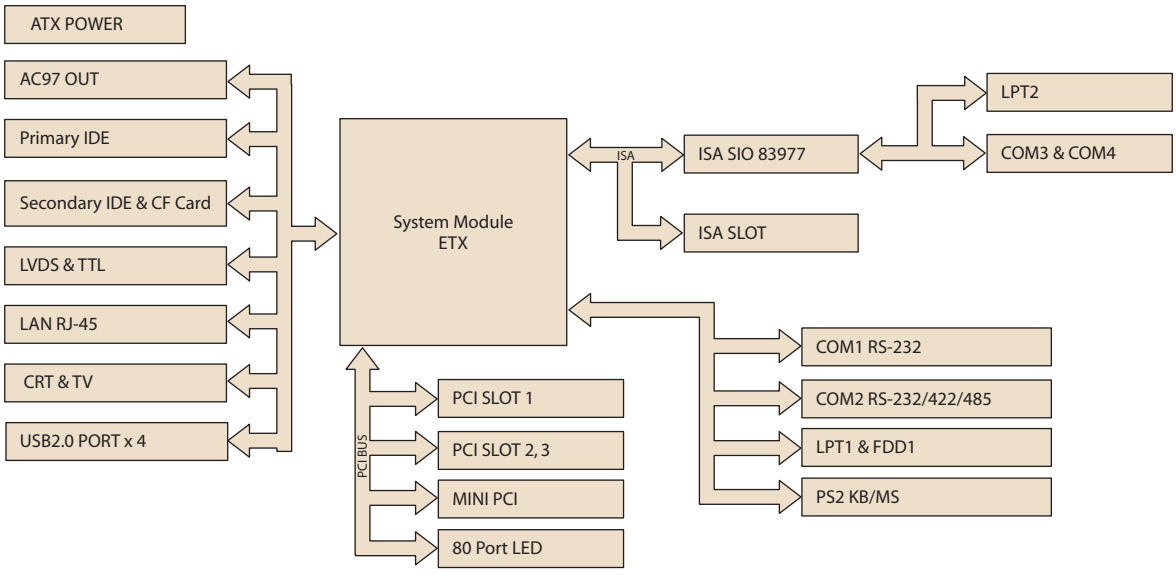
		ETX	XTX
Display	LCD	TTL/LVDS (depends on CPU module)	TTL/LVDS (depends on CPU module)
	VGA	1	1
	DVI		1
	TV out	1	1
	Dual Display	TTL/LVDS, VGA, TV out	TTL/LVDS, VGA, TV out
Ethernet		1 x 10/100	1 x 10/100 + 1 Giga
Audio		AC97	High Definition Audio
Expansion	Express Card		2
	PCI	3	2
	MiniPCI	1	1
	ISA	1	1
I/O	SATA		4
	EIDE	1 x 40 pin + 1 x 44 pin	1 x 40 pin + 1 x 44 pin
	Serial	4 COM ports 3 x RS-232, 1 x RS-232/422/485	4 COM ports 3 x RS-232, 1 x RS-232/422/485
	USB	4 x USB 2.0	6 x USB 2.0
	LPT/FDD	1	1
	KB/MS	1	1
	CF	1	1
	System Fan	2	2
	SMBUS	1	1
	I2C	1	1
	Port 80	1	1
Power	Power Type	ATX modes	
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
	Operating Humidity	0% ~ 90% relative humidity, non-condensing	
Mechanical	Dimensions	304.8 x 190.5 mm (12" x 7.5")	

Board Diagram

(XTX)



(ETX)



Packing List

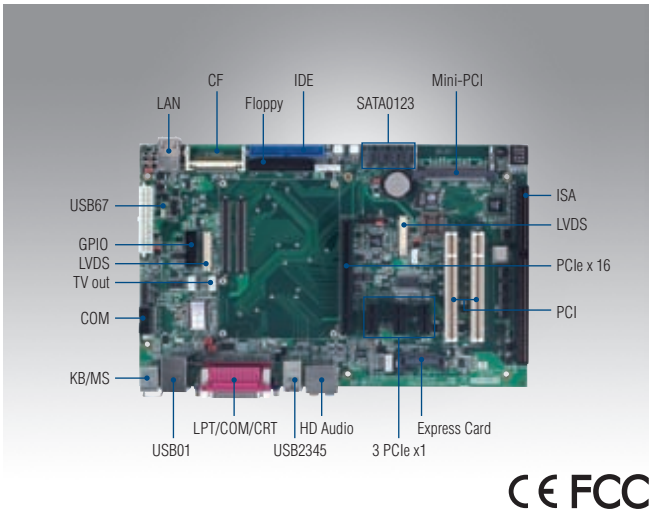
Part No.	Description	Quantity
SOM-DB4700-00A1E	SOM-DB4700	1
1703050307	TV-Out Cable	1

Ordering Information

Part No.	Description
SOM-DB4700-00A1E	Development Board for ETX Rev.A1
SOM-DB4700X-00A1E	Development Board for XTX Rev.A1

SOM-DB5700

COM-Express / Micro / Ultra Development Board



CE FCC

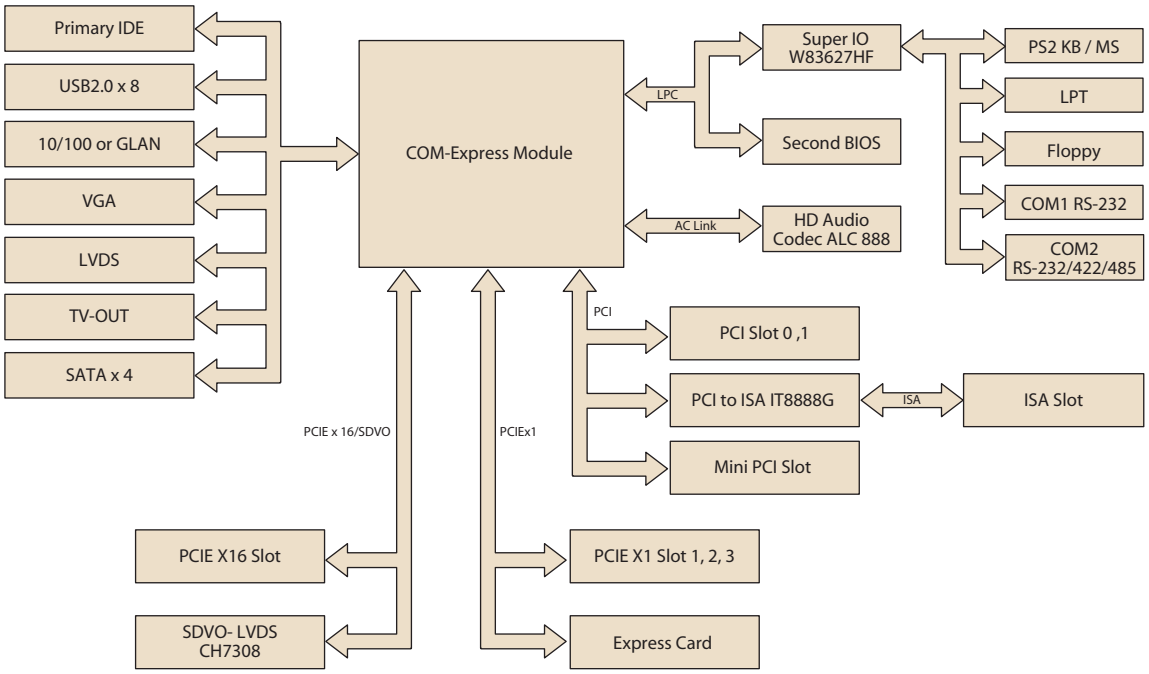
Features

- COM-Express / Micro / Ultra Development Board, Module Pin-out Type II
- ATX form factor
- Display type: Dual LVDS, VGA, TV out
- Expansion: 1 PCIe x16, 3 PCIe x1, 1 Express Card, 2 PCI master, 1 MiniPCI, 1 ISA bus slot
- SATA/EIDE/FDD/LPT/Keyboard/Mouse/USB/Audio/SSD interface

Specifications

Compatible Models		Advantech COM-Express (125 x 95 mm), COM-Micro (95 x 95 mm) and COM-Ultra (55 x 84 mm) series
Display	LVDS	LVDS1 (SPEC based on CPU Module) 48-bit LVDS2 (LVDS2 is optio-I)
	VGA	1 (D-SUB 15P Female)
	TV Out	1
	Dual Display	LVDS1, LVDS2, VGA, TV out (LVDS2 is optio-I)
Ethernet		1 x Giga LAN or 10/100 (SPEC based on CPU Module)
Audio	Chipset	High Definition Audio (Line/Micro-In, Front/Center/Surround/Side surround-out)
Expansion	PCIe x16 slots	1
	PCIe x1 slot	3
	Express Card socket	1
	PCI slots	2
	MiniPCI socket	1
	ISA slot	1
I/O	SATA	4 (Type B)
	EIDE	1 x 40 pin
	Serial	2 COM Ports (D-SUB 9P) 1 x RS-232, 1 x RS-232/422/485
	USB	8 x USB 2.0
	LPT	1 (D-SUB 15P)
	FDD	1
	KB/MS	1
	CF	1 (Type I)
	GPIO	8-bit (GPI 4-bit/GPO 4-bit)
	System FAN	2
	SMBUS	1
	I2C	1
	Port 80	1
Power	Power Type	ATX/ AT modes
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	304.8 x 190.5 mm (12" x 7.5")

Board Diagram



Ordering Information

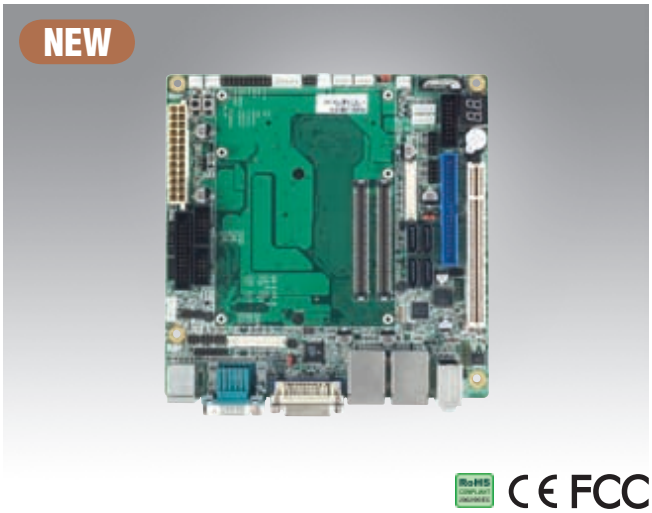
Part No.	Description
SOM-DB5700-00A2E	Development board for COM-Express and COM-Micro Series with 10/100 Mbps LAN
SOM-DB5700G-00A2E	Development board for COM-Express and COM-Micro Series with GLAN
SOM-DB5700G-U0A2E	Development board for COM-Ultra Series with GLAN

Packing List

Part No.	Description	Quantity
	SOM-DB5700 development board	1
1700100170	17.5 cm 2 CH USB cable	1
1701100300	FLAT COM port cable	1
1700001892	30 cm TV-out 5P cable	1
1701400452	FLAT 40P IDE cable 45 cm	1
1700008894	SERIAL ATA cable 7P/7P 30 cm	1
1701340603	Floppy cable 34P 60 cm	1

SOM-AB5710

COM-Express / Micro / Ultra Application Board



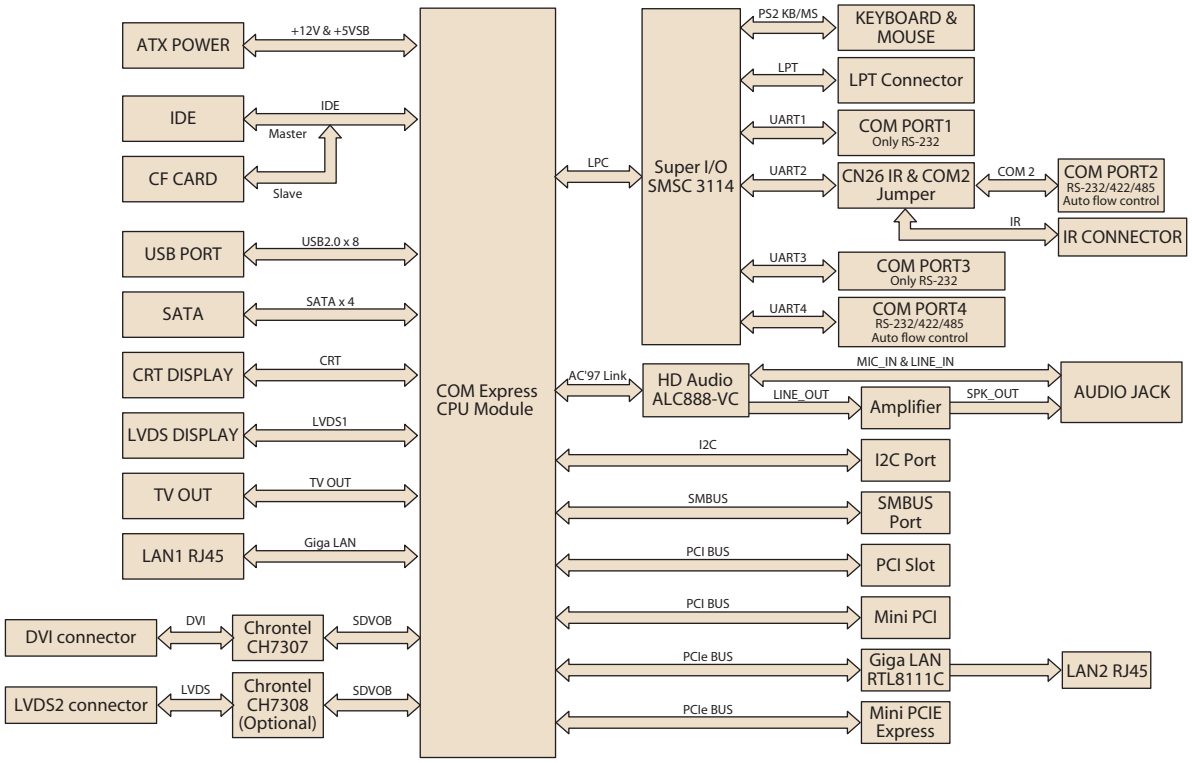
Features

- Supports COM-Express (125 x 95 mm), COM-Micro (95 x 95 mm) and COM-Ultra (55 x 84) form factors
- Mini-ITX form factor
- Display type: VGA, LVDS1, DVI, TV out, 48-bit LVDS2 optio-I
- Expansion: 1 x PCI, 1 mini PCI express , 1 x Mini PCI
- 4 COM, 4 SATA ports, 8 x USB 2.0, IDE, LPT, KB/MS, IrDA, 8-bit GPIO, CF interface

Specifications

Form Factor		Mini-ITX form factor
Compatible Models		Advantech COM-Express (125 x 95 mm), COM-Micro (95 x 95 mm) and COM-Ultra (55 x 84) series
Display	LVDS	LVDS1 (SPEC depends on CPU Module) 48-bit LVDS2 (Supports on SOM-5786)(LVDS2 is optio-I)
	VGA	1 port. (SPEC depends on CPU Module)
	DVI	1 port, supported by Chrontel CH7307
	TV Out	1 port. (SPEC depends on CPU Module)
	Dual Display	LVDS1, LVDS2, DVI, VGA, TV out
Ethernet	Interface	10/100/1000 Mbps
	Controller	GbE LAN1: SPEC depends on CPU Module GbE LAN2: Realtek(RTL8111C)
	Connector	RJ45 x 2
Audio	Chipset	ALC888-VC
	Amplifier	Yes. (2.2W)
Expansion	PCIe x16 Slot	-
	PCIe x1 Slots	-
	Mini PCI Express	1
	PCI Slots	1
	MiniPCI Socket	1
	ISA Slot	-
SATA	Max Data Transfer Rate	Depends on CPU module SPEC
	Channel	4
SSD	Compact Flash	Supports CompactFlach Card TYPE I/II
Rear I/O	VGA	1
	DVI	1
	Ethernet	2
	USB	4 (USB 2.0)
	Audio	3 (Mic-in, Line-in, Line-out)
	Serial	2 (COM1 supports RS-232, COM2 supports RS-232/422/485)
	PS/2	2 (1 x keyboard and 1 x mouse)
Inter-I Connector	LVDS	2 (LVDS1 and 48-bit LVDS2 (LVDS2 is optio-I))
	USB	4 x USB 2.0
	Serial	2 COM (COM3, COM4) COM3 supports RS-232 COM4 supports RS-232/422/485
	IDE	1 x 40 pin
	SATA	4
	Compact Flash	1
	Parallel	1
	IrDA	1 (shares COM2)
	FDD	-
	DIO	8-bit (GPI 4-bit/GPO 4-bit)
	CPU FAN	1
	System FAN	3
	SMBUS	1
	LPC	1
	I2C	1
	Port 80	1
Power	Power Type	ATX/ AT modes
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	170 mm x 170 mm (6.69" x 6.69")

Board Diagram



Ordering Information

Part No.	Compatible model	LVDS1	LVDS2	DVI	CRT	TV out	Giga LAN	HD Audio	COM	PCI	Mini PCI	Mini PCI Express	USB 2.0	SATA	LPT	KB/MS	IrDA	IDE	CF	Operating Temp.
SOM-AB5710-5786A1E	SOM-5786 series	Yes	Optio-I	Yes	Yes	Yes	2	Yes	4	1	1	1	8	3	Yes	Yes	Yes	Yes	Yes	0 ~ 60° C
SOM-AB5710-5761A1E	SOM-5761/6761 series	Yes	Optio-I	Yes	Yes	Yes	2	Yes	4	1	1	1	8	2	Yes	Yes	Yes	Yes	Yes	0 ~ 60° C

Packing List

Part No.	Description	Quantity
	SOM-AB5710 Evaluation board	
1700008894	CABLE SERIAL ATA 7P/7P 30CM	1
1703150102	Wire BIG4P/Series ATA power 15P 10cm	1
1700100170	A Cable USB-A(F) x 2/2 x 5P-2.54 17.5 cm W/BKT F/5	1
1700000446	F Cable D-SUB 25P(F)/IDE#3 26P-2.54 45 cm	1
1701400452	FLAT IDE CABLE 40P GRAY FOR DMA-66 PIN20 I.P. 45 cm	1
1701100300	Flat COM Cable D-SUB 9P(M) W/Bracket 320 mm	1
1700001892	Wire 5P TV-out 30 cm	1

Optio-I Accessories

Part No.	Description
1960019193T000	I/O SHIELD Bracket 158.8 x 45.5 mm